

## OF GENERAL INTEREST

## PROCEEDINGS OF THE SOCIETY

## MINUTES OF MEETING

## Boston Society of Civil Engineers

NOVEMBER 16, 1960.—A regular meeting of the Boston Society of Civil Engineers was held this evening at the United Community Services Building, 14 Somerset Street, Boston, Mass., and was called to order by President Arthur T. Ippen, at 7:00 P.M.

President Ippen stated that the minutes of the previous meeting held October 10, 1960 would be published in a forthcoming issue of the Journal and that the reading of those minutes would be waived unless there was objection.

President Ippen announced the death of the following members:—

Robert W. Anderson, who was elected a member December 17, 1947, and who died October 4, 1960.

Edward I. Gardiner, who was elected a member April 20, 1927, and who died in April, 1960.

Walter C. Voss, who was elected a member February 15, 1928, and who died November 2, 1960.

The Secretary announced the name of applicants for membership in the Society and that the following had been elected to membership October 17, 1960:—

*Grade of Member*—Lawrence C. Allen, John C. Chapman, Saul A. Nuccitelli, Robert S. Palmer, Richard L. Savage, Donald Tsiang.

*Grade of Junior*—Frank H. Barnhill, Jr., Richard T. Farquharson, Ben-

jamin Fehan, Joseph C. Hohmann, Jr.

President Ippen introduced the guest speaker of the evening, Gordon M. Fair, Abbot and James Lawrence Professor of Engineering and Gordon McKay Professor of Sanitary Engineering, Harvard University, who gave a most interesting illustrated talk on "Publish or Perish—The Survival of Civil Engineering as a learned Discipline.

The meeting was preceded by a dinner and thirty-two members and guests attended the dinner. Seventy members and guests attended the meeting.

The meeting adjourned at 8:30 P.M.

CHARLES O. BAIRD, JR., *Secretary*

DECEMBER 14, 1960.—A Joint Meeting of the Boston Society of Civil Engineers with the Structural Section, BSCE was held this evening at the United Community Services Building, 14 Somerset Street, Boston, Mass., and was called to order by Vice President James F. Brittain, at 7:00 P.M.

Vice President Brittain announced that the Minutes of the previous meeting held November 16, 1960 would be published in a forthcoming issue of the Journal and that the reading of those minutes would be waived unless there was objection.

The Secretary announced the names of applicants for membership in the Society and that the following had been elected to membership December 14, 1960:—

*Grade of Member*—Peter A. Kahn, Charles A. Pickering, Jr., Evan A. Wilder.

*Grade of Junior*—Anthony Antonello, John J. Cochrane, Richard L. de Neufville, Richard B. Lynds.

Vice President Brittain stated that this was a Joint Meeting with the Structural Section and called upon Paul S. Crandall, Chairman of that Section to conduct any necessary business.

Vice President Brittain introduced speaker of the evening, Prof. Roland S. Greeley, Assoc. Prof. of City Planning, M.I.T., who gave an interesting talk on "A City Planner Looks at the Urban Explosion". Discussion followed the talk.

Fourteen members and guests attended the meeting.

The meeting adjourned at 8:30 P.M.

CHARLES O. BAIRD, JR., *Secretary*

## STRUCTURAL SECTION

NOVEMBER 9, 1960.—The meeting was called to order at 7 P.M. Myle J. Holley, Jr. presided in place of Paul S. Crandall who was recovering from an illness.

Albert G. H. Dietz professor of structural engineering at M.I.T., spoke on the structural metals section of the Boston Building Code which is now in process of revision. Professor Dietz stated that the full committee of this code revision has held some sixty meetings since the original committee was organized in 1955 and that the draft of its work was published in the July 1960 Journal of the Boston Society of Civil Engineers. He called for discussion from the floor on the various code items, noting that Compression Members, Combined Stress, Plate Girders and Gross and Net Section were revised somewhat more than other parts of the Code.

There was discussion from the floor about some of the new types of steel which are now available and the possible

desirability of including them in the revised Code. Further discussion pointed out the need for "type" identification marks on structural steel, a practice which has already been started on concrete reinforcing bars.

Professor Dietz called attention to the enlarged section on compression members, commenting that much of the material was based on findings of the Column Research Council. In discussion, William LeMessurer told of a building failure in Toronto, the cause of which was confirmed in a relatively short time through application of the principles of the new information in the section on compression members. In further discussion, someone else suggested that serious consideration might well be given to seeking early adoption of revised codes.

The meeting adjourned following a standing round of applause for Professor Dietz and the Code Committee. The present Code Committee on Structural Metals consists of J. M. Biggs, O. G. Julian, H. S. Gillis, W. J. LeMessurer, W. F. Pike, J. Wolozin and A. G. H. Dietz, Chairman. D. Mathoff of the office of the Building Commissioner has acted as secretary.

Forty-five members and guests were present.

E. N. SMITH, *Clerk*

DECEMBER 14, 1960.—President Arthur T. Ippen opened the meeting and, following membership announcements, turned the meeting over to the chairman of the structural section, Paul S. Crandall. Mr. Crandall introduced the speaker, Roland S. Greeley, associate professor of city planning at M.I.T., whose subject was "A City Planner Looks at the Urban Explosion".

The speaker projected several images of metropolitan Boston as it might appear in the year 2000. He said that by the year 2000, very likely over one half the city will have been rebuilt and the population will have grown by one third. All of the growth could occur

within the area of Route 128, he said. This could happen if there were re-centralization with the core city planned, as in downtown Manhattan. Another way growth could spread, would be as it has in the past decade, on a "spread-out" basis, until it reaches the proposed highway 495 which is to run approximately past Lowell, Littleton, and Marlboro. A third alternative is the concentrated centers type of growth: a center radiating from downtown Boston together with a belt radiating from Route 128. The speaker noted that the fourth and probably most desirable way, would be for expansion to take place in concentric circles in outlying satellite cities, as for example, Brockton, Lowell, or Lawrence. The optimum population of these proposed cities is between one and two hundred thousand, he said.

Professor Greeley discussed means of fostering improved quality and efficiency in urban growth, stressing the need for communities to get together; particularly, the need for the formation of a Metropolitan Boston planning group. Boston is now the largest city in the country without a metropolitan planning agency, he said. Following a question and answer period the meeting adjourned at 8:45 P.M.

E. N. SMITH, *Clerk*

## SURVEYING AND MAPPING SECTION

OCTOBER 26, 1960.—The regular October meeting of the Surveying and Mapping Section was called to order by Harry R. Feldman, at 7:20 P.M. The chairman, Mr. Feldman announced that he was preceding with plans for the January meeting and would welcome any suggestions from the members with respect to programs for the April and May meetings. The May meeting will be a joint meeting with the Parent Society. Since there was no further business to be discussed on this occasion, the chairman introduced the speaker of

the evening, Mr. Loring P. Jordon, Jr., a partner in the law firm of Rachemann, Sawyer & Brewster, who spoke on the subject of "Water Front Property Lines". The informal talk was accompanied by a distribution of some very interesting written material on the subject which was prepared especially for this meeting by Mr. Jordan. A lengthy discussion period followed the presentation and the meeting was adjourned at 8:35 P.M.

The meeting was attended by fifteen members and guests.

ROY L. WOOLDRIDGE, *Clerk*

## HYDRAULICS SECTION

MAY 4, 1960.—The meeting was called to order by John B. McAleer, Chairman of the Section at 7:10 P.M. The minutes of the previous meeting were read and approved. The meeting was held in the Hydrodynamics Laboratory of MIT. The Chairman then called upon Dr. Arthur T. Ippen, President of the BSCE to make comments on a proposal that the Hydraulics Section sponsor a special lecture series for the membership. Dr. Ippen cited the recent lectures on reinforced concrete design held at Northeastern University which had to be given in two sessions because of over 500 inquiries. He noted that the last lecture series sponsored by this section was in 1950. It was suggested that the executive committee should give further attention to this matter.

Professor James W. Daily, Past Chairman of the Hydraulics Section reported briefly on a questionnaire on the need for a lecture series which was distributed at several meetings of the Section during 1958-59. Only 15 replies were received, however, all were in favor of some form of special lectures.

The Chairman then introduced the speaker of the evening, Dr. James W. Daily, Professor of Hydraulics, MIT, whose paper was entitled, "Dilute Fiber Suspensions in Shear Flows".

Professor Daily discussed the interest of the pulp and paper industry in the effect of fibers suspended in water on the flow characteristics in conduits. The fibers form non-Newtonian solutions whose behavior differs markedly from that of pure liquids. A research program at the Hydrodynamics Laboratory has undertaken to study pressure drop, velocity distributions, and turbulence distributions in circular pipes.

One interesting result is that for a wide range of turbulent flows the resistance of fiber suspensions is less than that for pure water at the same flow rates.

In the discussion, similar problems arising in bottom fluff layers in harbors and estuaries were mentioned.

The formal meeting adjourned at 8:25 P.M. to permit an inspection and demonstration of the various research projects in the Hydrodynamics Laboratory which lasted for approximately one hour.

The attendance at the meeting was 26.

DONALD R. F. HARLEMAN, *Clerk*

NOVEMBER 2, 1960.—The meeting was opened in the Society rooms at 7:15 P.M. by Professor L. Neale acting in the absence of the Chairman, John B. McAleer. The minutes of the previous meeting were read and approved. Professor Neale then introduced Mr. Manuel A. Benson, Hydraulic Engineer, U.S. Geological Survey, Washington, D.C., whose paper was entitled "Flood Frequency Analyses".

Mr. Benson discussed the relation of peak discharges of streams to hydrologic (topographic and climatic) basin characteristics. He stressed the need for information on the variation of flood peak experience from place to place. The New England region was chosen for this study by the U.S.G.S. The BSCE reports on peak discharges of 1936 and 1942 were reviewed as well as other published analysis of peak floods.

Stations with a minimum record of ten years (164 in all) were used; of the total group 22 stations had recurrence intervals of 300 years.

Mr. Benson concluded his talk with a graphical analysis of the effect of the following variables on peak discharges.

1. Drainage area
2. Channel shape
3. Storage area—lakes and ponds
4. Rainfall—intensity and frequency
5. Temperature—January degrees below freezing
6. Orographic factors

An exponential formula has been derived on the basis of the above variables giving the peak discharge as a function of recurrence interval for New England.

A lively discussion period followed the paper and the meeting was adjourned at 9:00 p.m. The attendance was 35.

DONALD R. F. HARLEMAN, *Clerk*

## ADDITIONS

### *Members*

- Lawrence C. Allen, 57 Tappan Street, Melrose 76, Mass.
- Robert E. Cameron, 118 Coronation Dr., Dedham, Mass.
- John C. Chapman, 383 Main Street, Hingham, Mass.
- Robert J. Hanson, 319 Lowell Street, Wakefield, Mass.
- Agnes A. L. H. McLaughlin, 9 Winisimett Ave., Wakefield, Mass.
- Ernest R. Leffel, 29 Shirley Road, Needham, Mass.
- Robert S. Palmer, Bunker Lane Farm, Durham, N.H.
- Charles A. Pickering, 51 Francis Ave., W. Bridgewater, Mass.
- Richard L. Savage, 157 Mt. Vernon St., Arlington, Mass.
- Peter A. Kahn, 188 Derby St., Newton 65, Mass.

Donald Tsiang, 109 Russell Road, W.  
Newton 65, Mass.

Evan A. Wilder, 37 Normandy Road,  
Lexington 73, Mass.

*Juniors*

Anthony Antonelli, 12 Ryan Place,  
Swampscott, Mass.

Alexander A. Bove, Jr., 25 Broadway,  
Quincy, Mass.

Frank H. Barnhill, Jr., 45 Florence  
Ave., Arlington 73, Mass.

James F. Duffy, 273 Squantum St., No.  
Quincy, Mass.

Benjamin J. Fehan, 14 Lafield St.,  
Dorchester 22, Mass.

Richard T. Farquharson, 44 Caughey  
St., Waltham 54, Mass.

Joseph C. Hohmann, Jr., 38 Cass St.,  
W. Roxbury 32, Mass.

Richard de Neufville, 428 Memorial  
Dr., Cambridge, Mass.

*Deaths*

Robert W. Anderson, Oct. 4, 1960

Armand W. Benoit, May 15, 1960

Edward I. Gardiner, April, 1960

Benjamin W. Guppy, July 10, 1960

Kenneth M. Kelley, Sept. 22, 1960

Walter C. Voss, Nov. 2, 1960