

NORTHWEST ARCHITECT

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VOLUME XXI
NUMBER SIX

ANOTHER
Blue Ribbon
INSTALLATION

FOR

INSPIRATIONAL ATMOSPHERE

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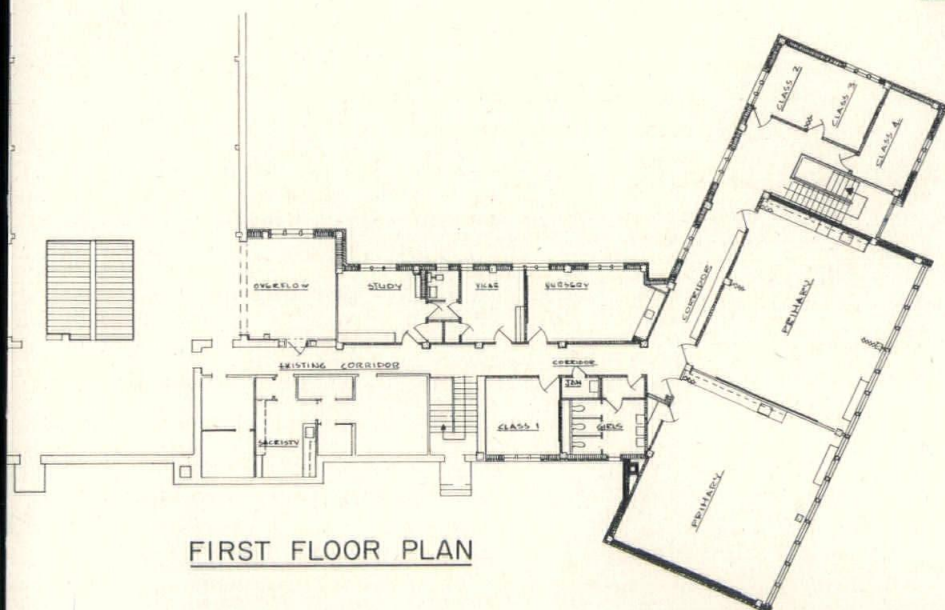
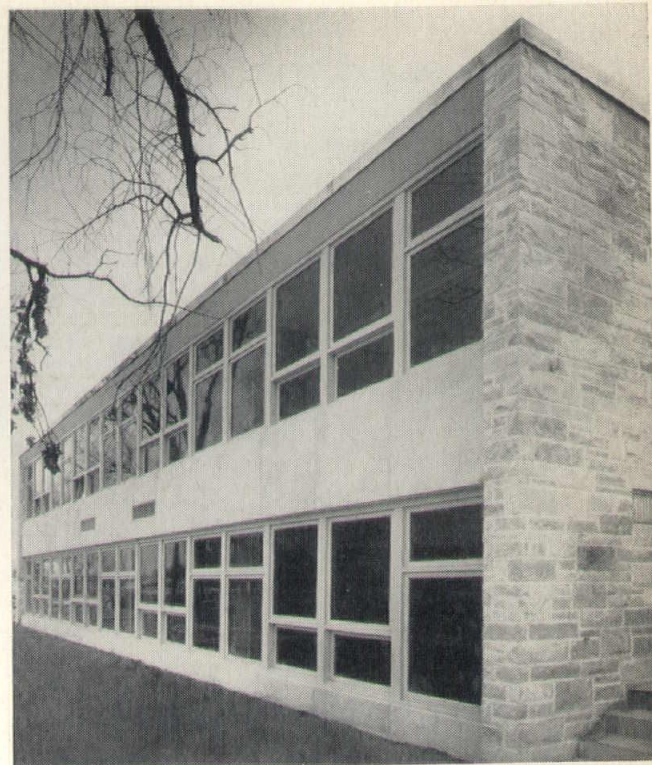
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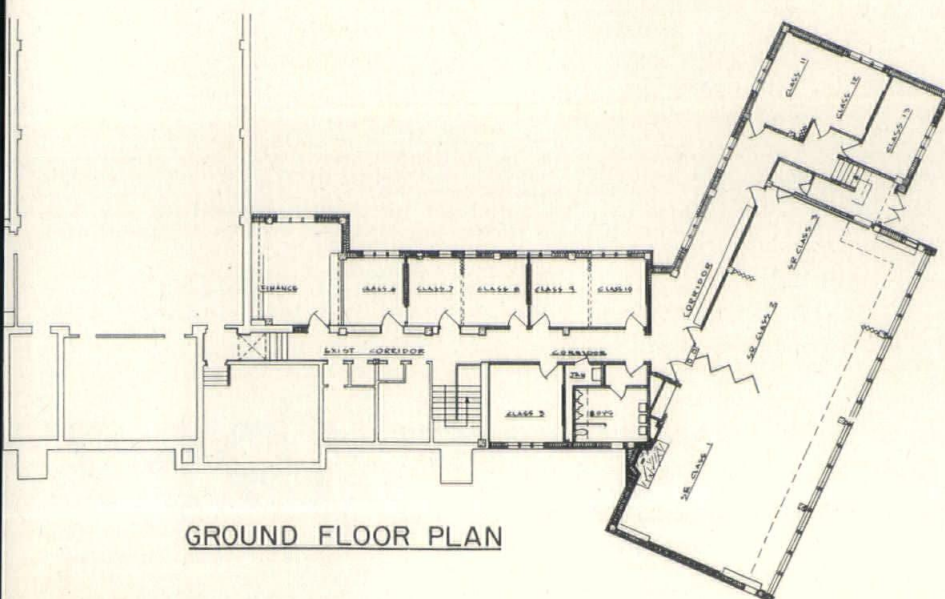
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Official Publication of the Minnesota Society of Architects, James M. Fenelon, Executive Secretary, 3416 University Ave., S.E., Minneapolis, Minnesota.

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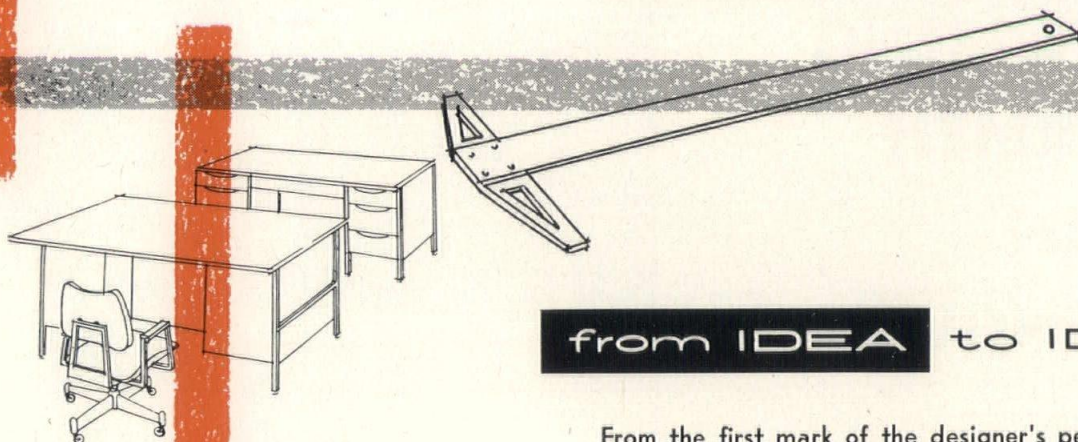
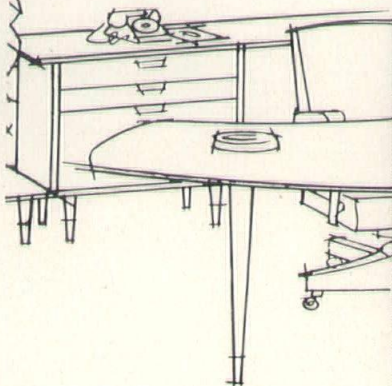
Publication Office: 2642 University Ave., St. Paul 14, Minnesota. Second Class Mail Privileges Authorized at St. Paul, Minnesota. Subscription: one year \$1.50, two years \$2.50.

VOLUME XXI
NUMBER 6

1957

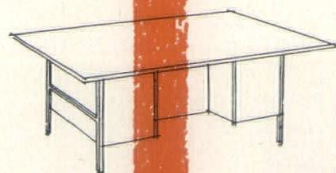
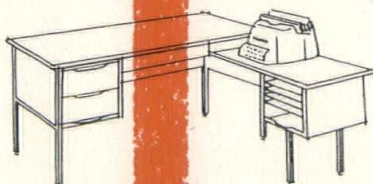
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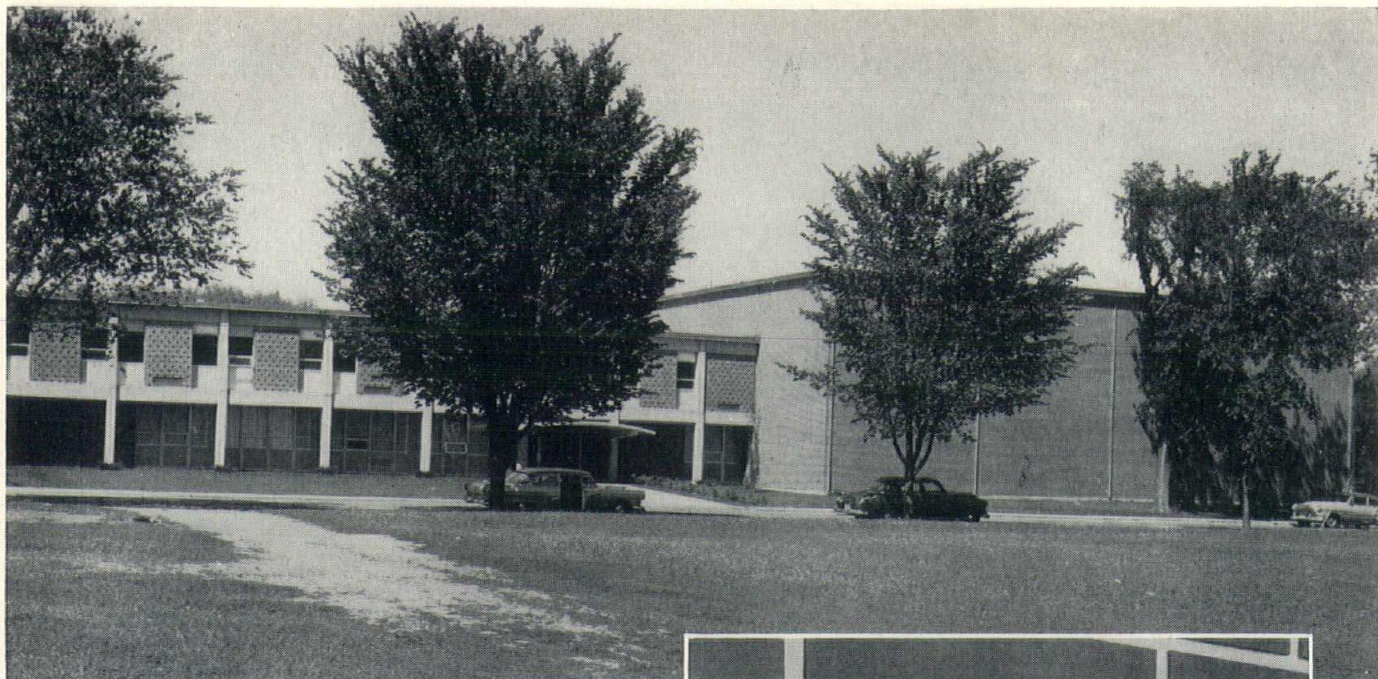
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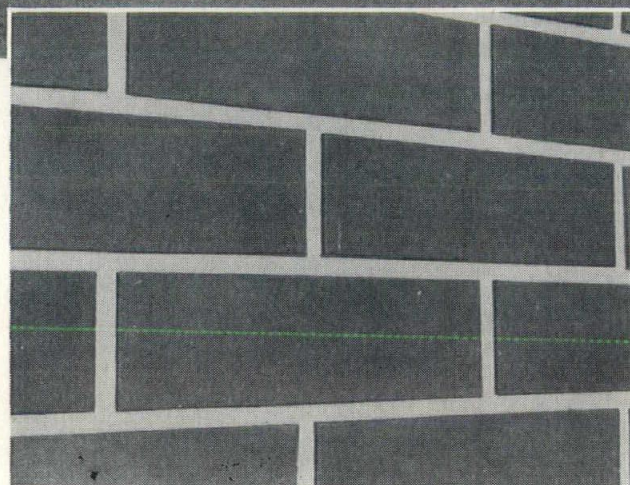
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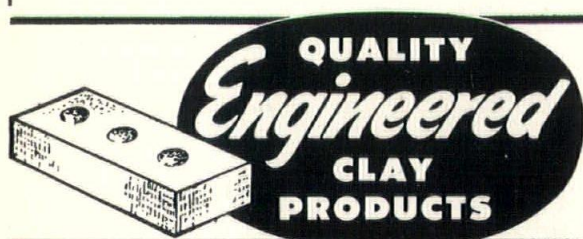


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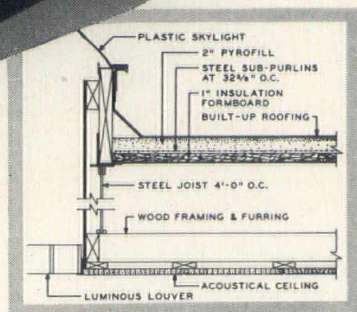
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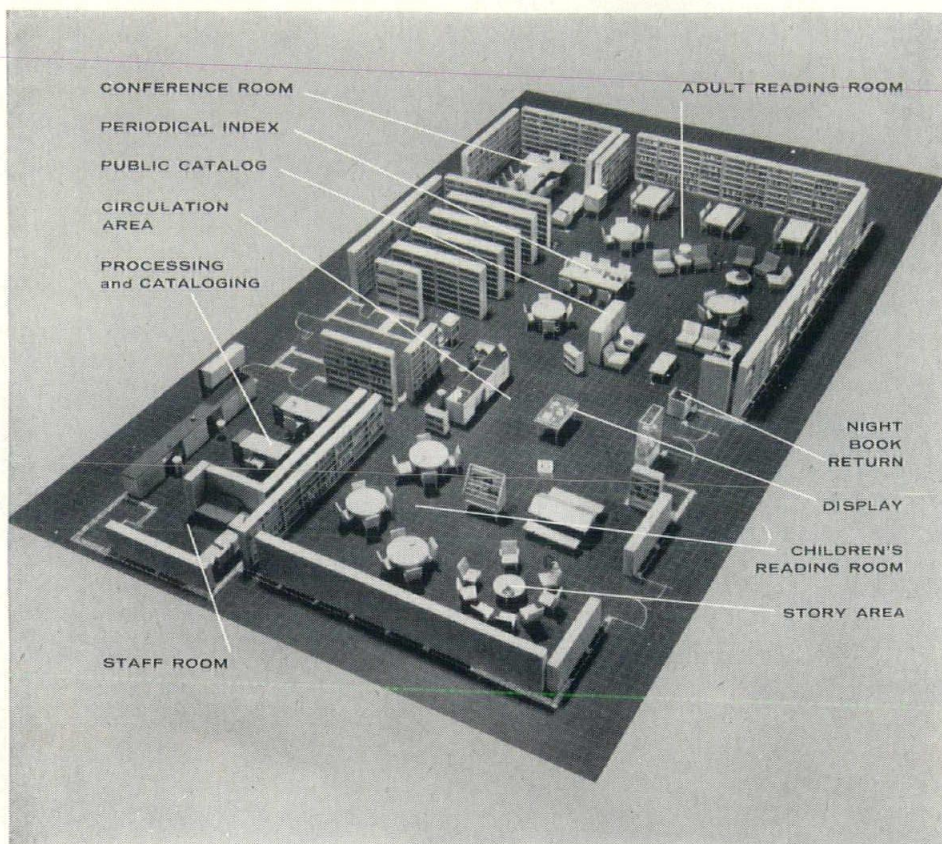
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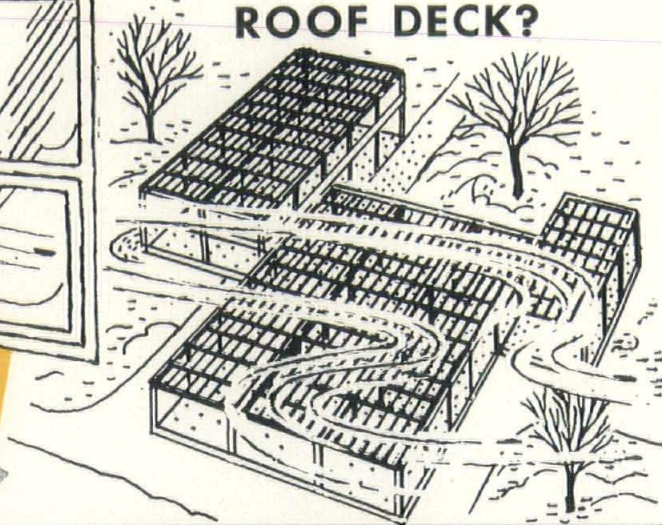
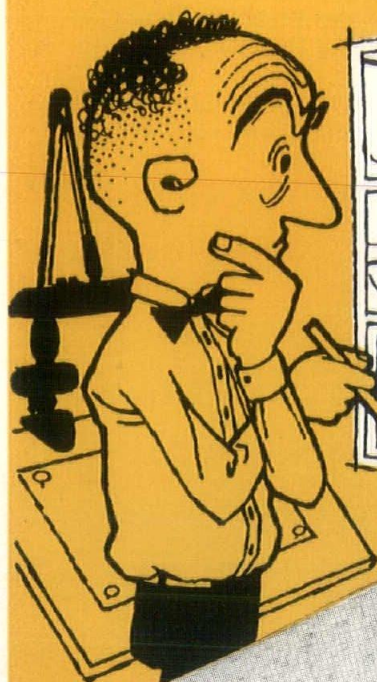
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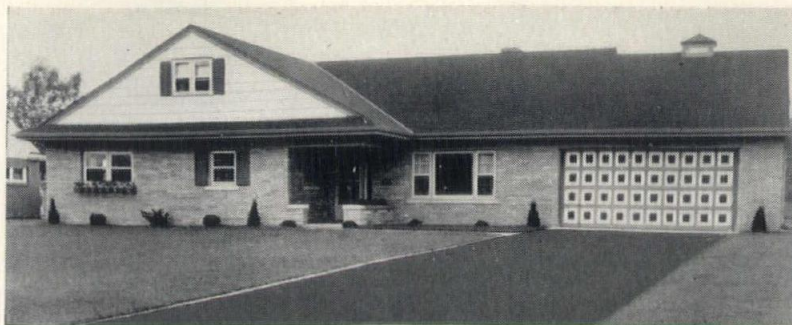
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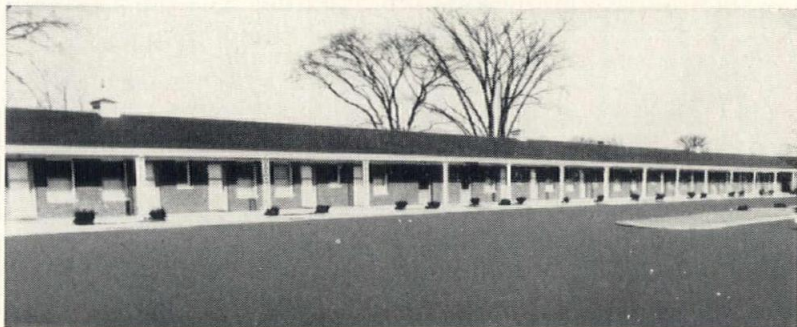
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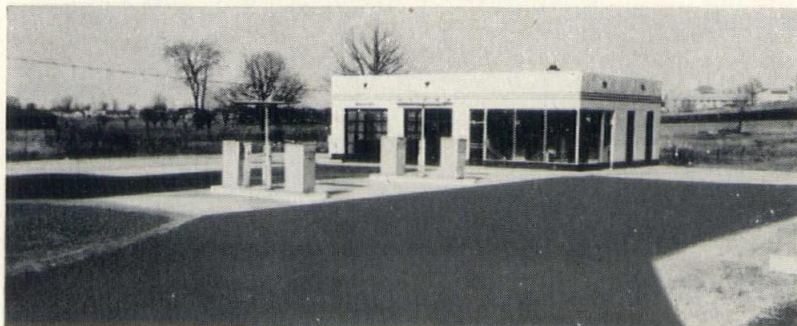
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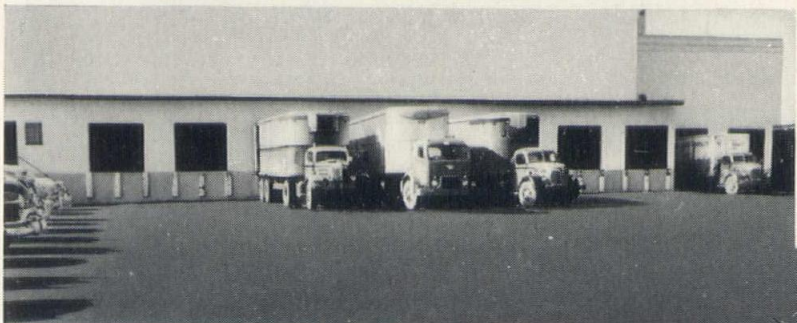
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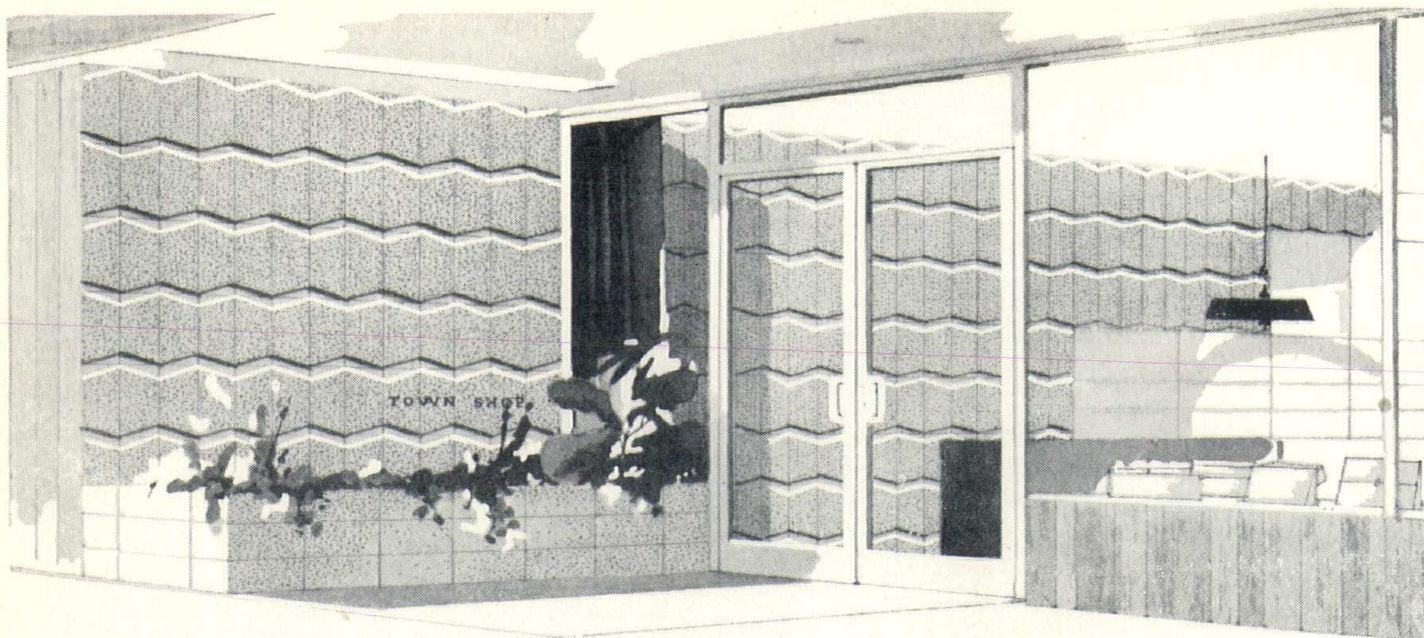
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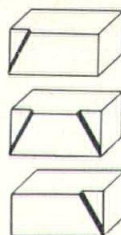
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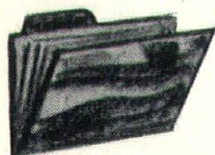
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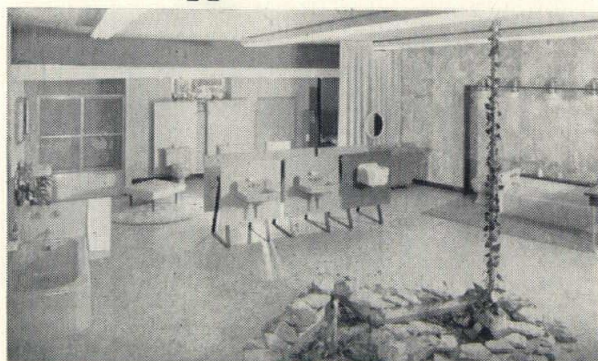
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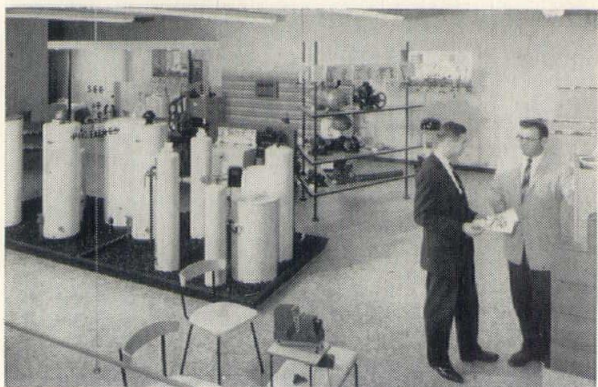


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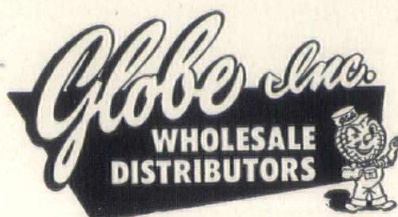


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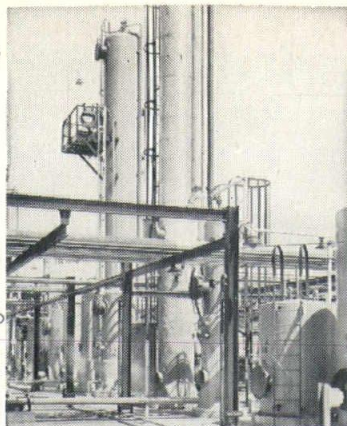


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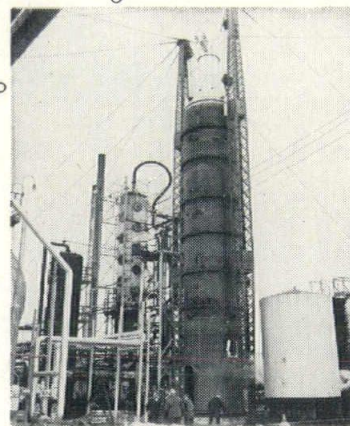
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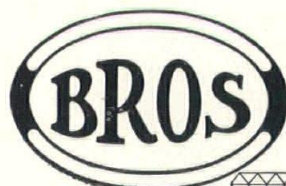
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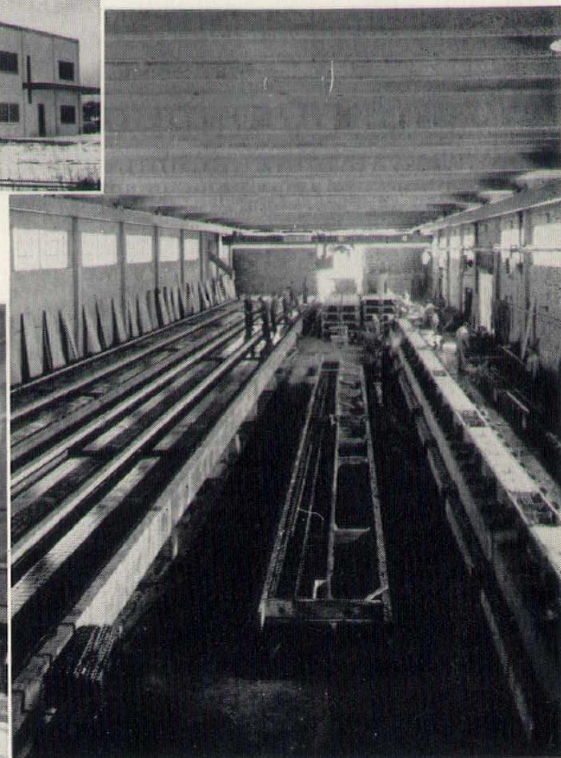
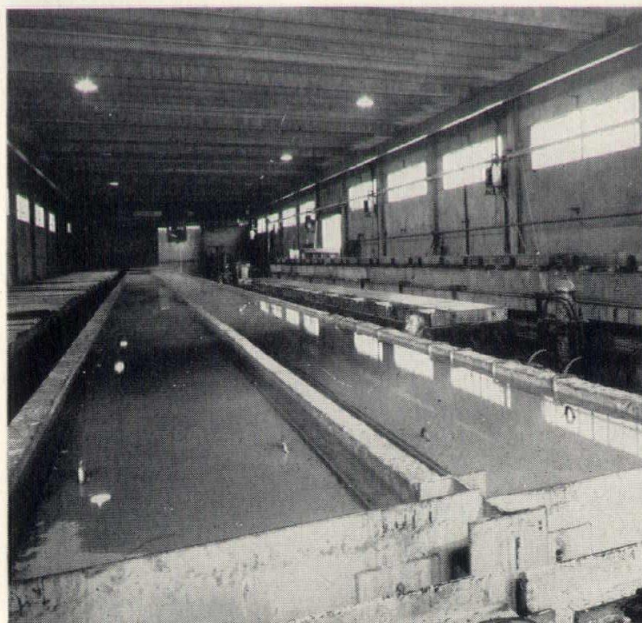
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Ray Heimsness
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Kenneth Storm
Box 97, Cook, Minn.

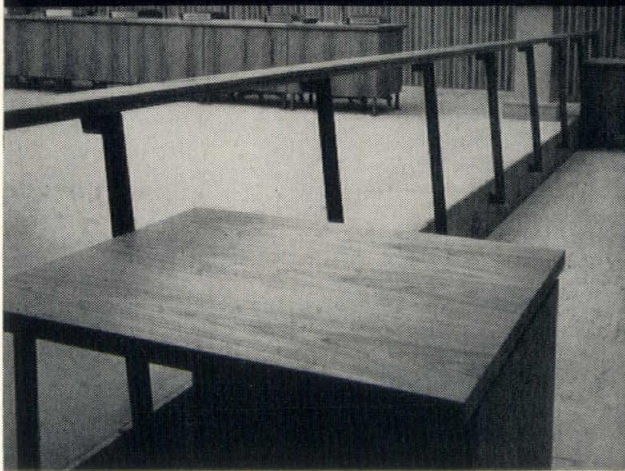
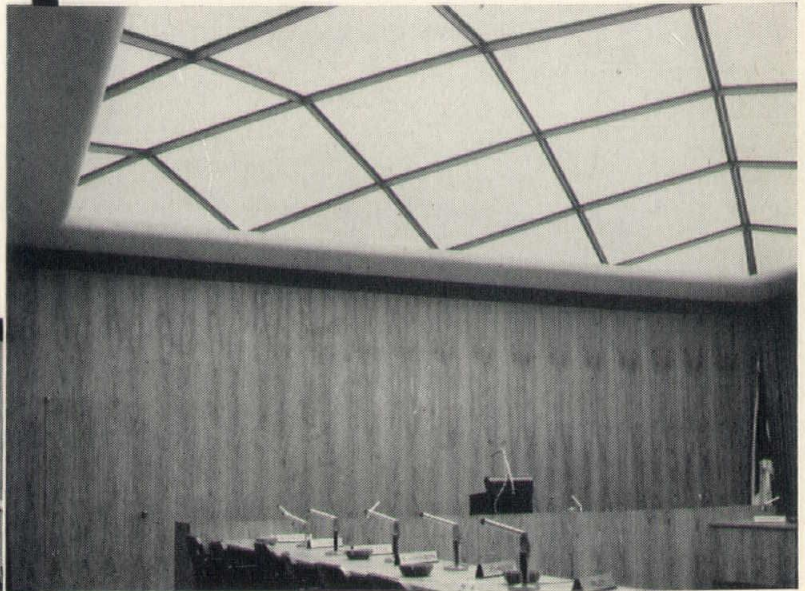
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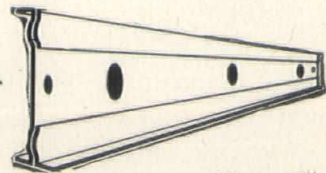
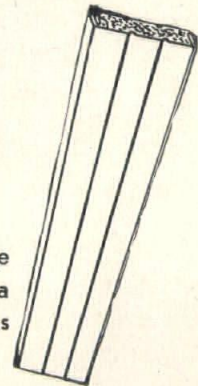


ARCHITECT: Fasth Hillstrom & Horty
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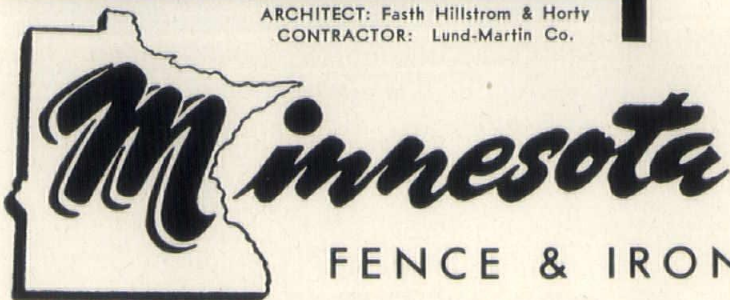
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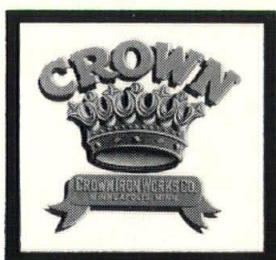


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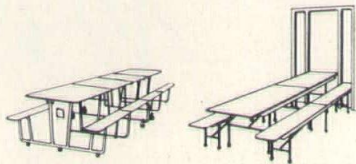
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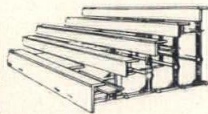
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THOMAS J. SHEFCHIK

ARCHITECT

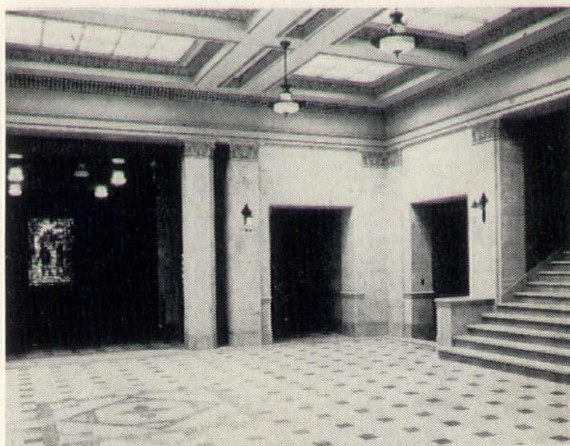
The architectural practice of Thomas J. Shefchik as a principal began in 1917 when he formed a partnership with the late Clyde W. Kelley. Upon the dissolution of that partnership in 1922, he opened his own office, known then as today, as Thomas J. Shefchik, Architect. It became a father and son practice in 1948 when Thomas J. Shefchik, Junior, joined the office. Other co-workers are Arnold B. Berg, William S. Moritz and John Ivey Thomas, all architects. Offices of the firm are in the Lonsdale Building at 302 West Superior Street, Duluth.

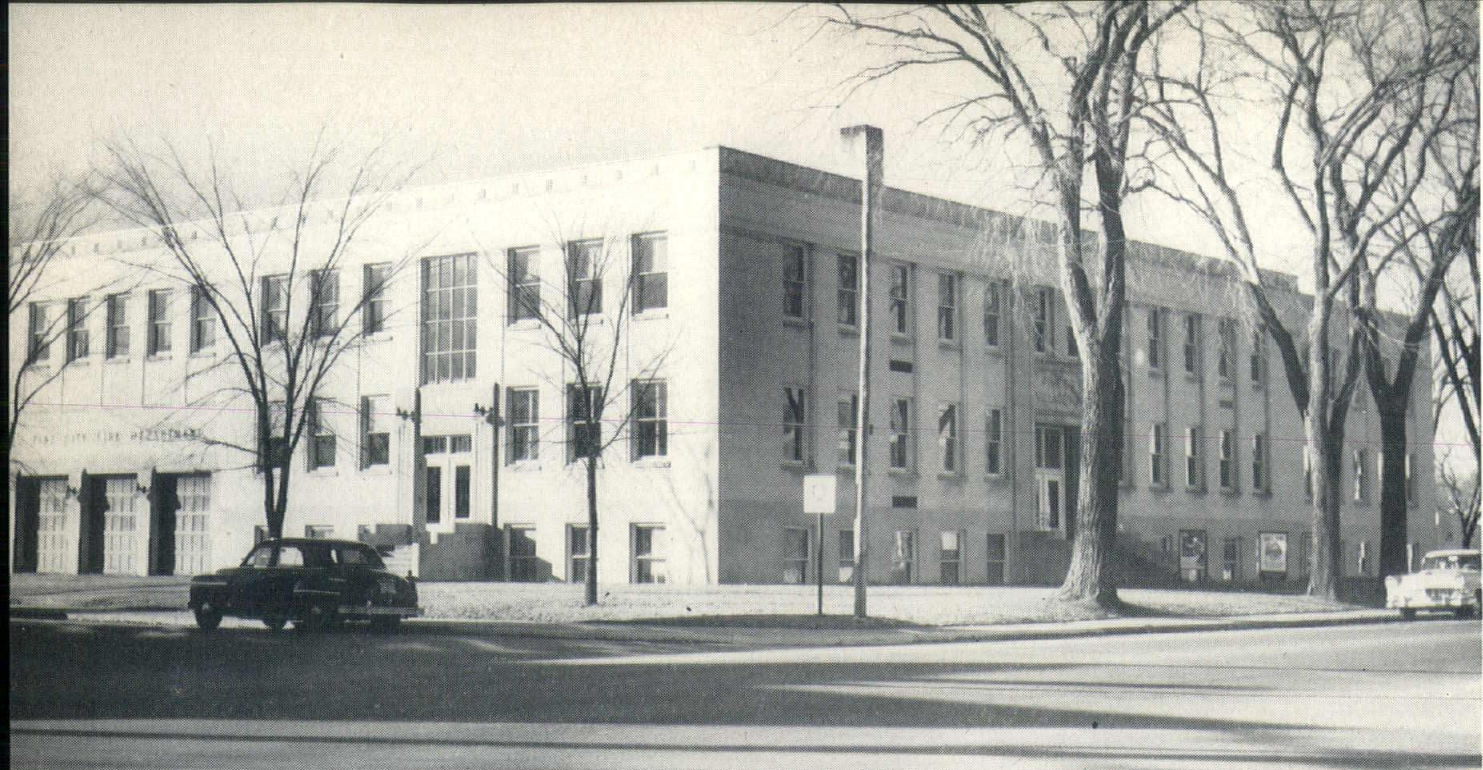
No attempt has been made to specialize or in any way restrict the practice. It is felt that the challenge offered by varied projects stimulates creative thinking and increases the ability to best solve individual building problems. Each project is handled as a team effort, with all personnel participating. A member of the staff best qualified for a particular project acts as "job captain." Structural engineering work is generally done in the office but consulting engineers are retained for mechanical and electrical work.

This page and the eight pages which follow comprise a monograph of the work of Thomas J. Shefchik, Architect. It begins with a brief look thirty years back.

CITY HALL—DULUTH, MINNESOTA—1927

Otto M. Olsen, who now has his own practice, was instrumental in the design of this project.





VILLAGE HALL
PINE CITY, MINNESOTA
1939



MUNICIPAL LIQUOR STORE
PROCTOR, MINNESOTA

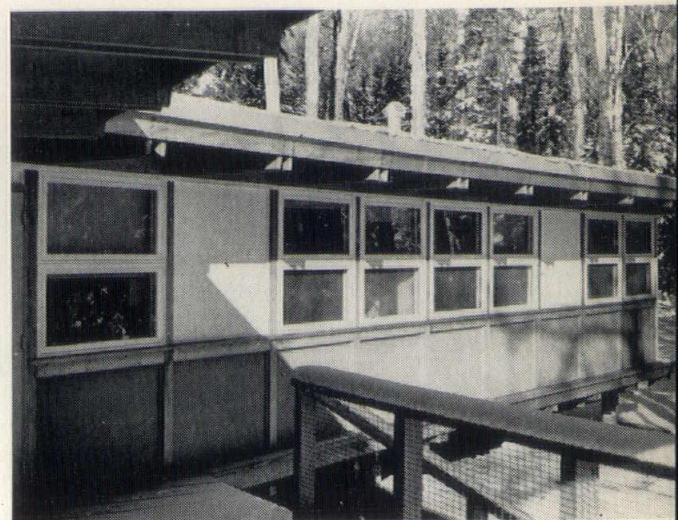
ASHLAND COUNTY JAIL
ASHLAND, WISCONSIN

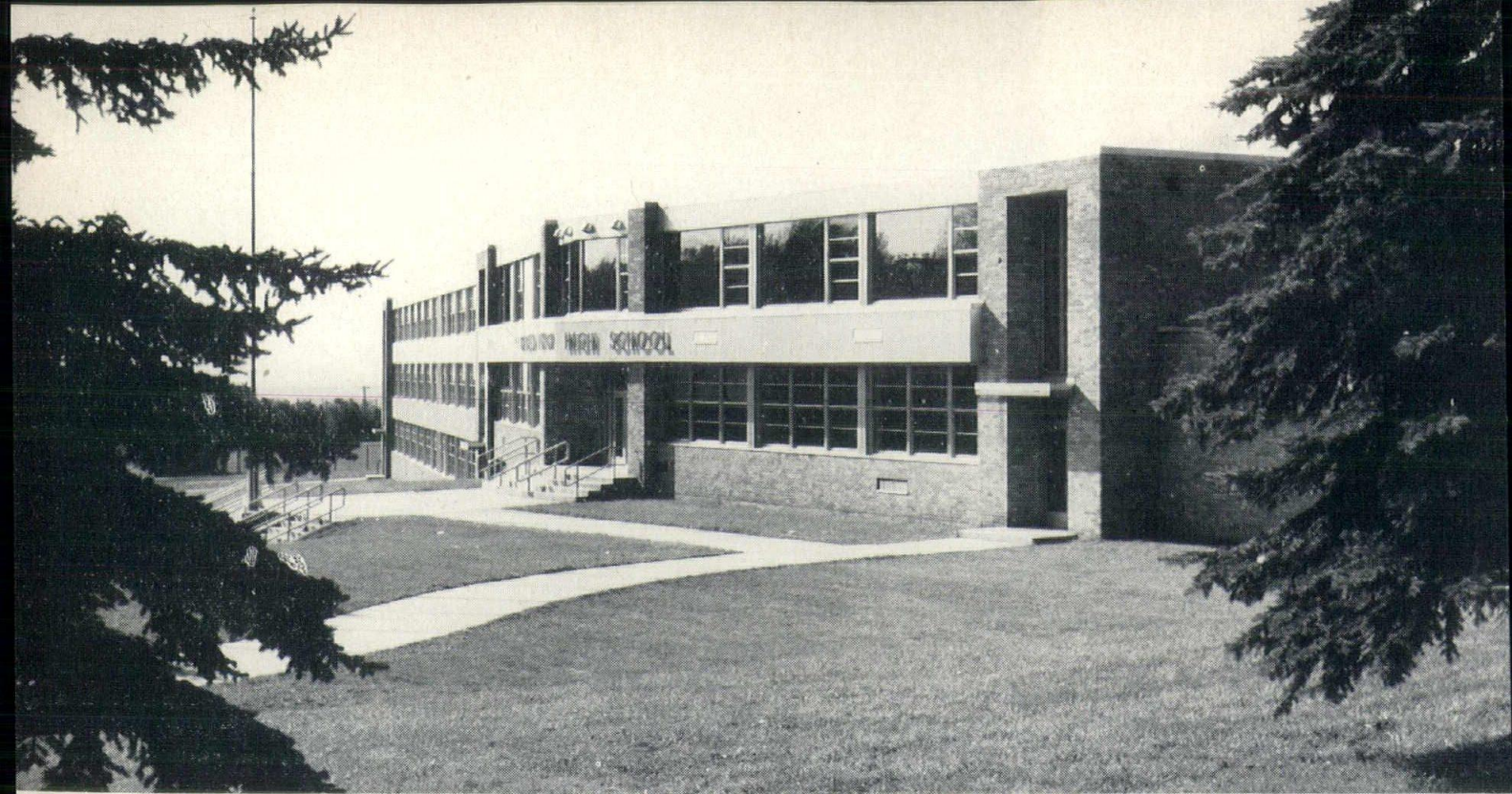




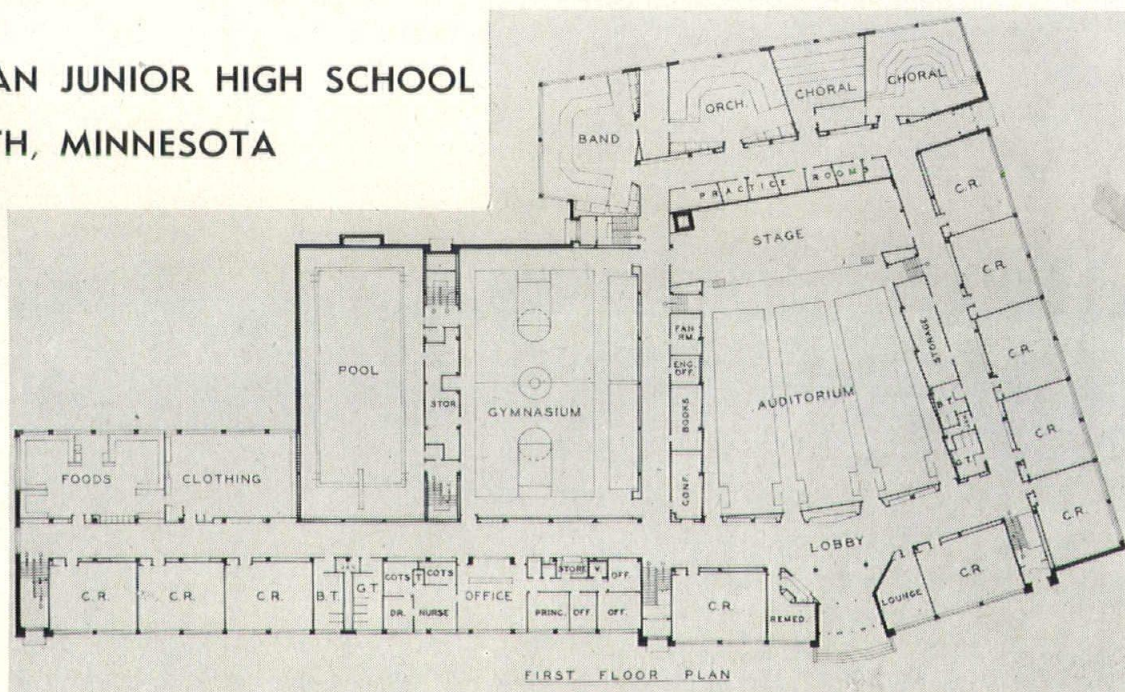
LAKE CABIN NEAR DULUTH

MR. & MRS. ALWORTH, JR.

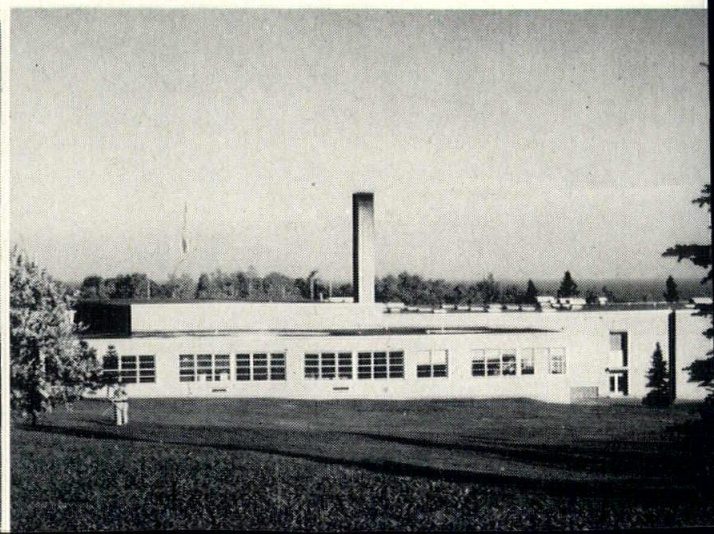
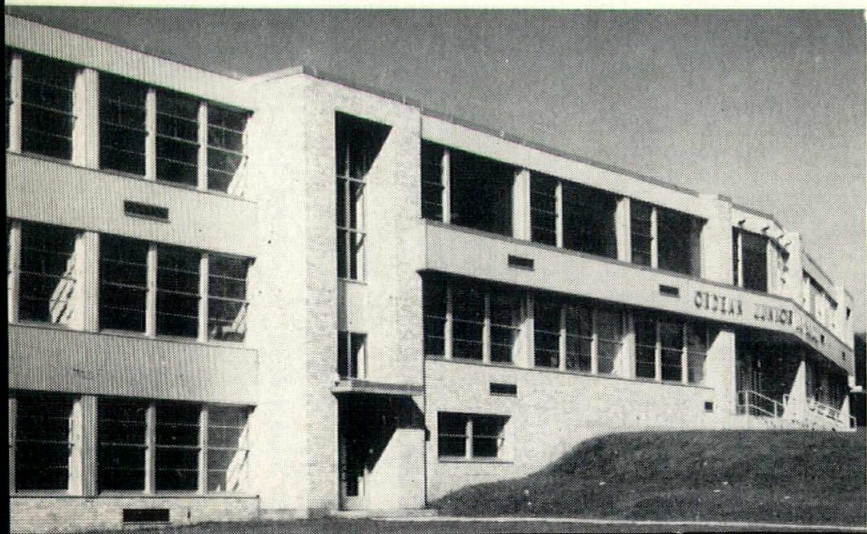




ORDEAN JUNIOR HIGH SCHOOL
DULUTH, MINNESOTA

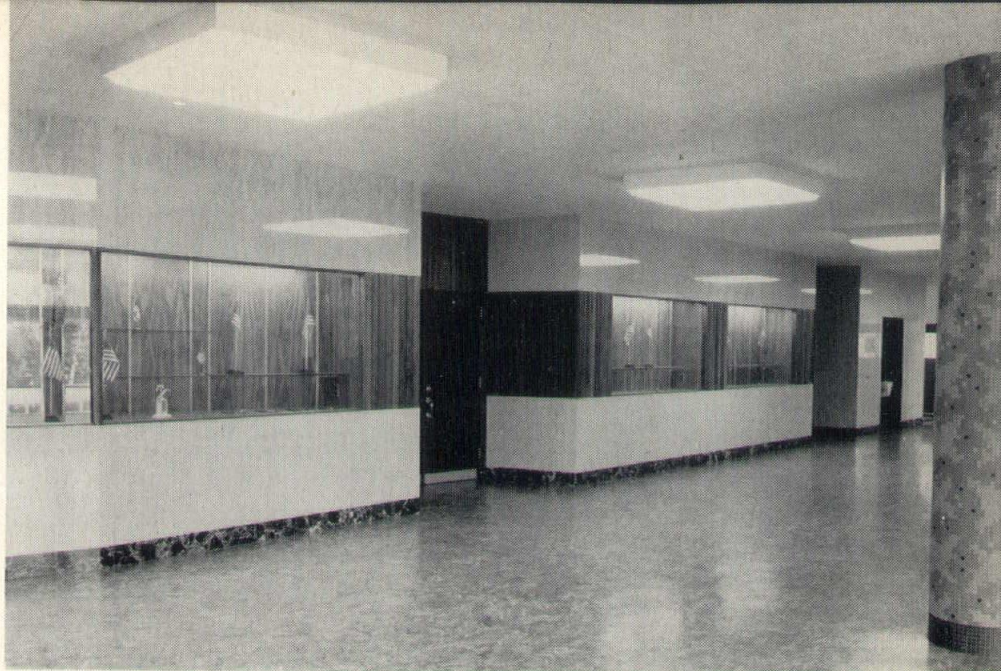


FIRST FLOOR PLAN

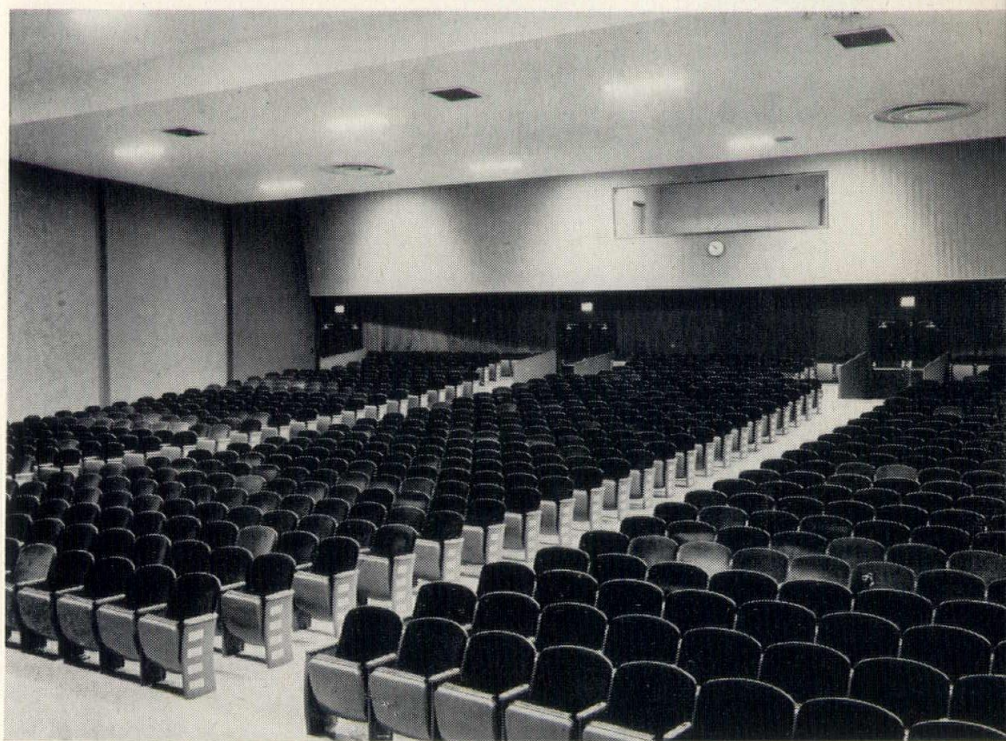


ORDEAN JUNIOR HIGH SCHOOL

LOBBY

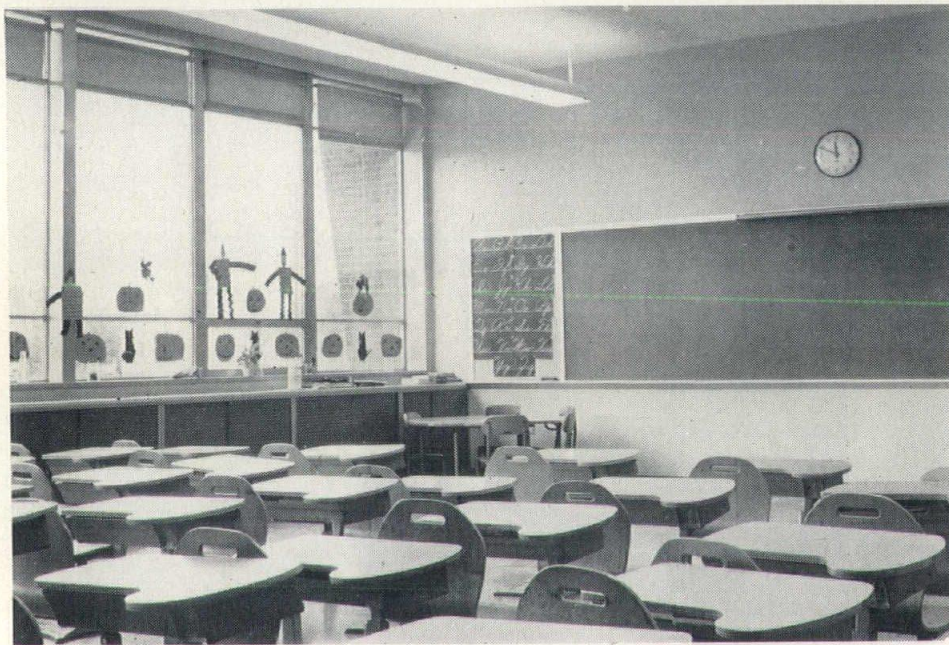
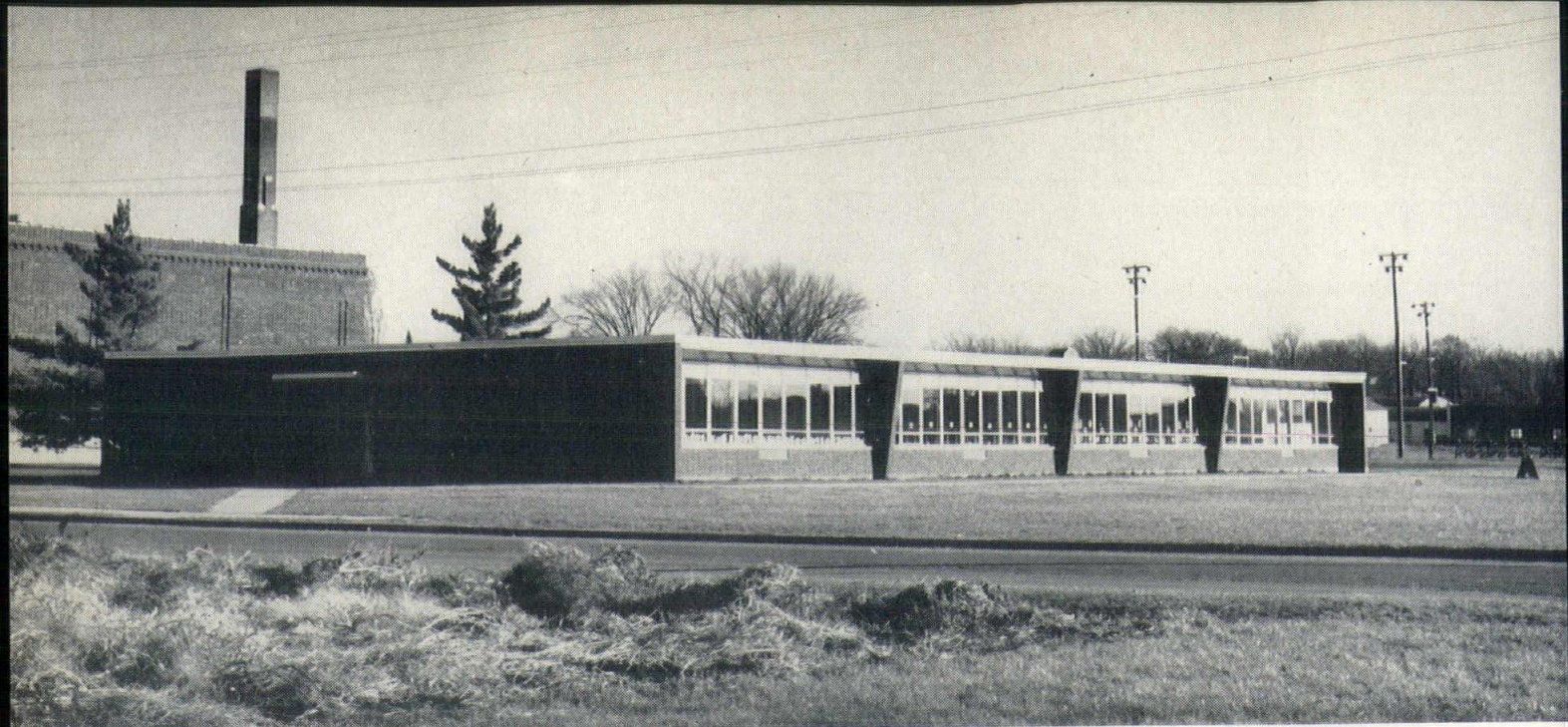


AUDITORIUM



LIBRARY



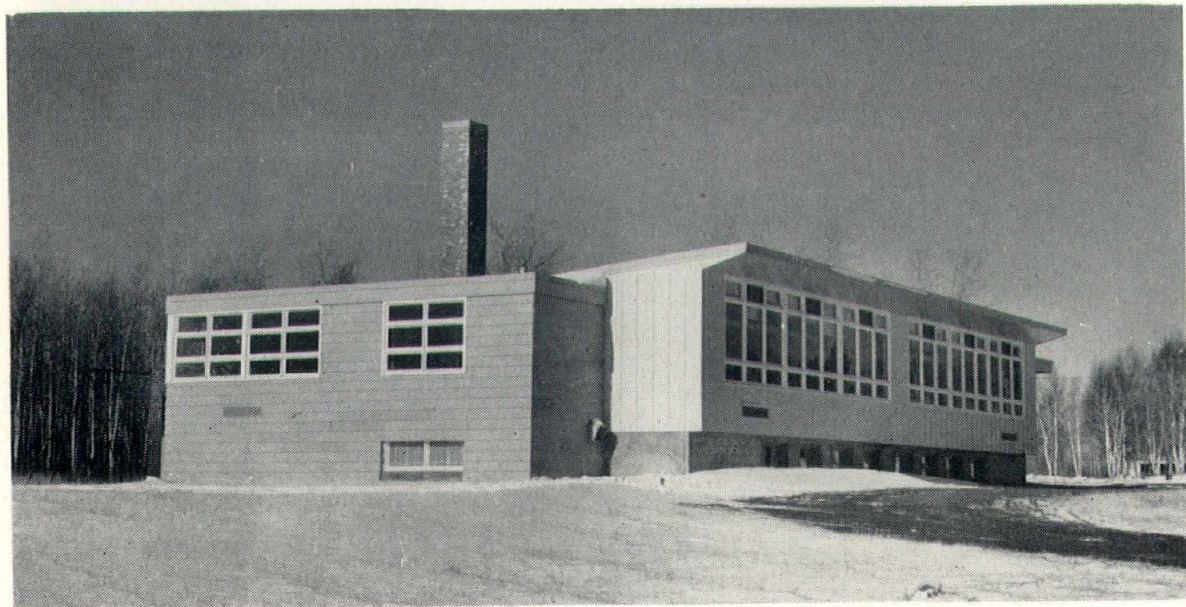


**PINE CITY
SCHOOL
PINE CITY,
MINNESOTA**

(Bottom)

**ELEMENTARY SCHOOL
FREDENBERG TOWNSHIP**

(Built on foundation of old
school which burned.)

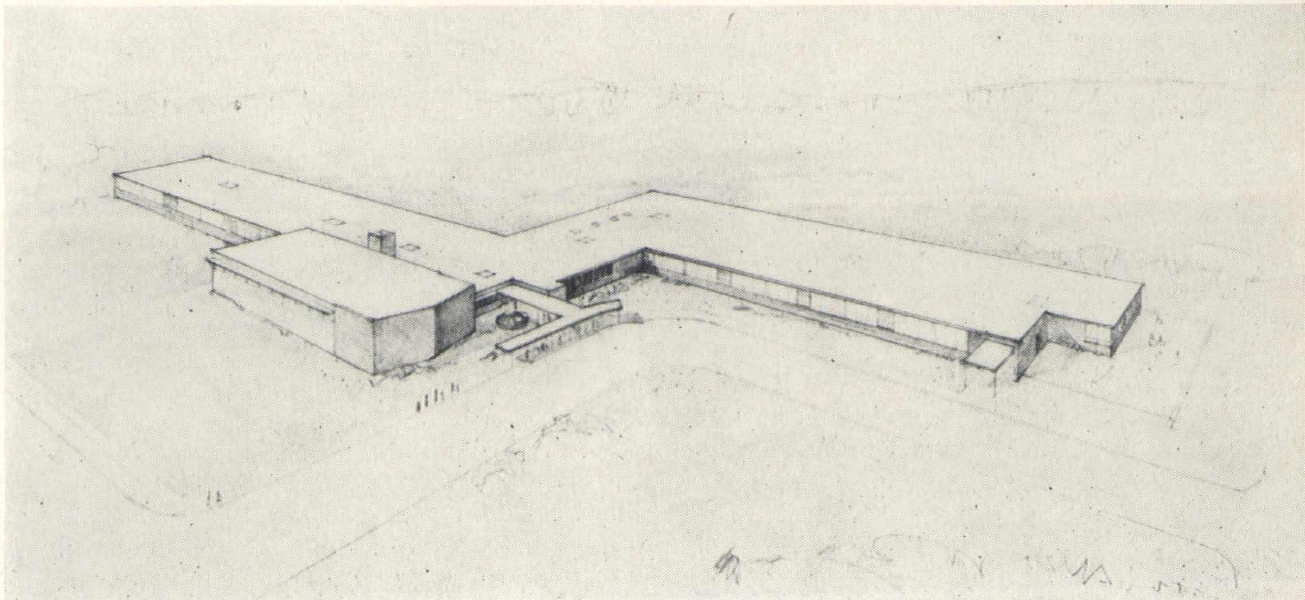


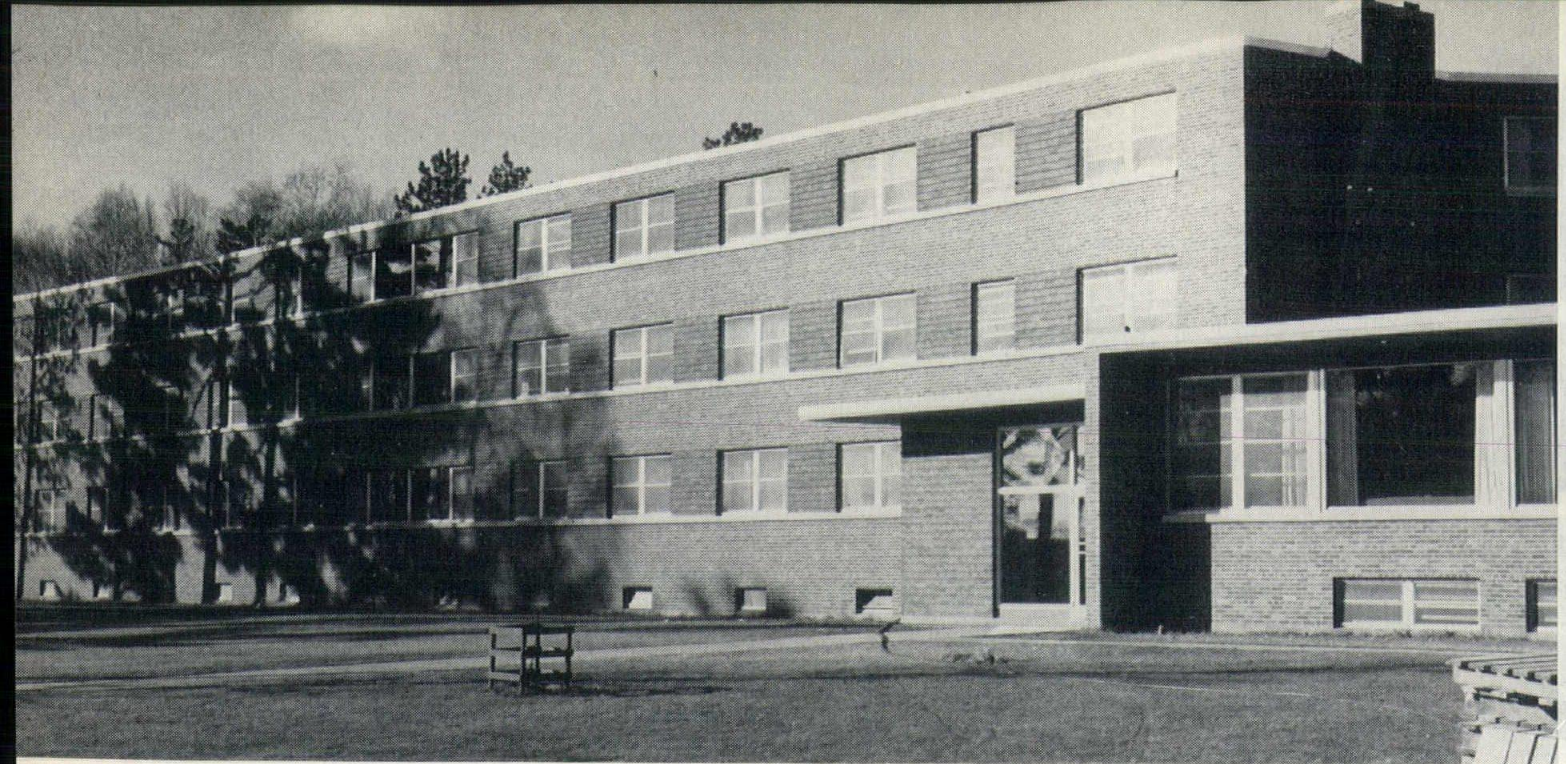


**ELEMENTARY SCHOOL
SCANLON, MINNESOTA**



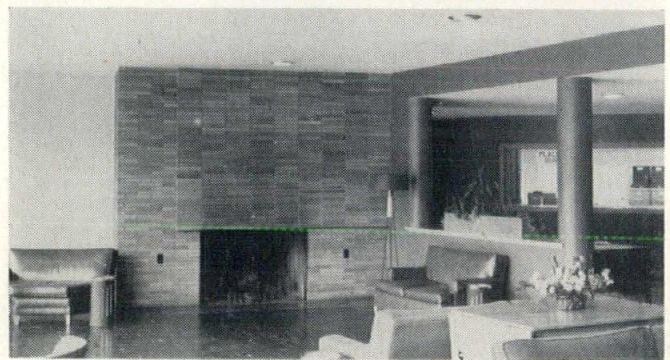
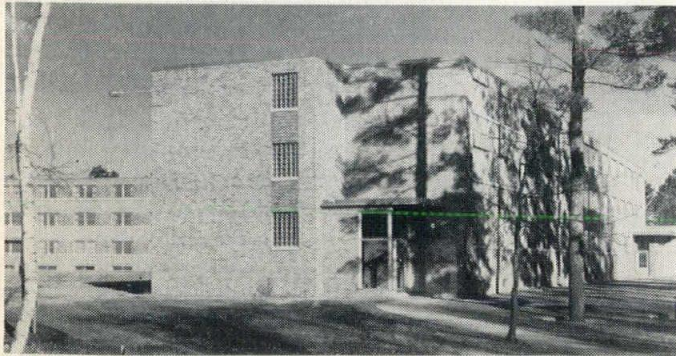
(Bottom)
Preliminary study for an
**ELEMENTARY SCHOOL
CHISHOLM, MINNESOTA**



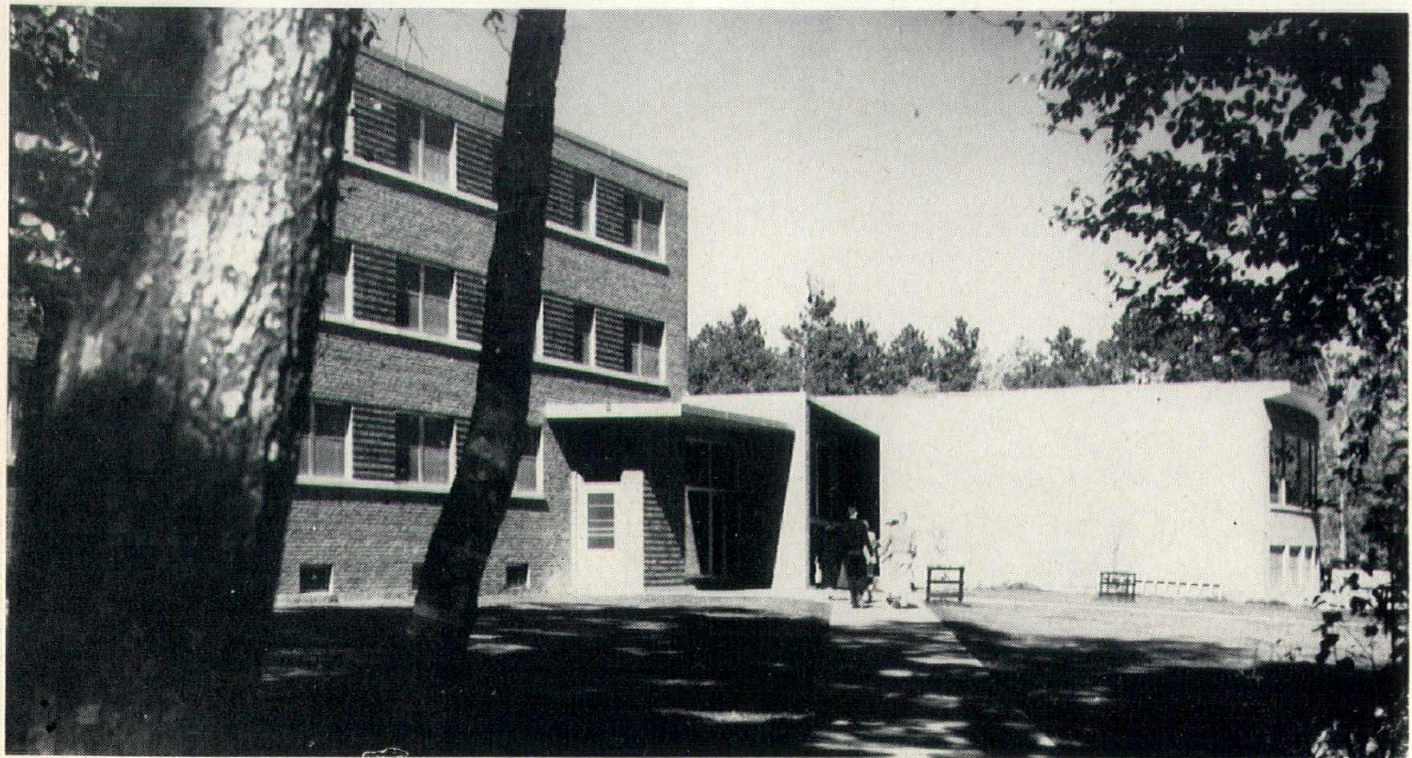


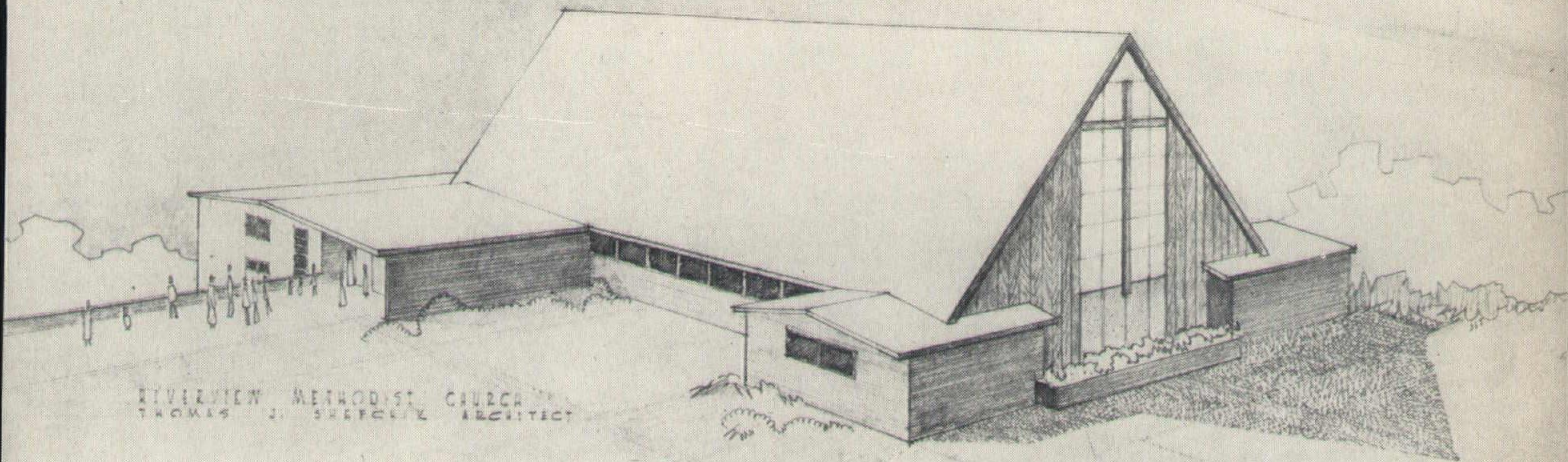
BIRCH HALL DORMITORY

BEMIDJI STATE COLLEGE



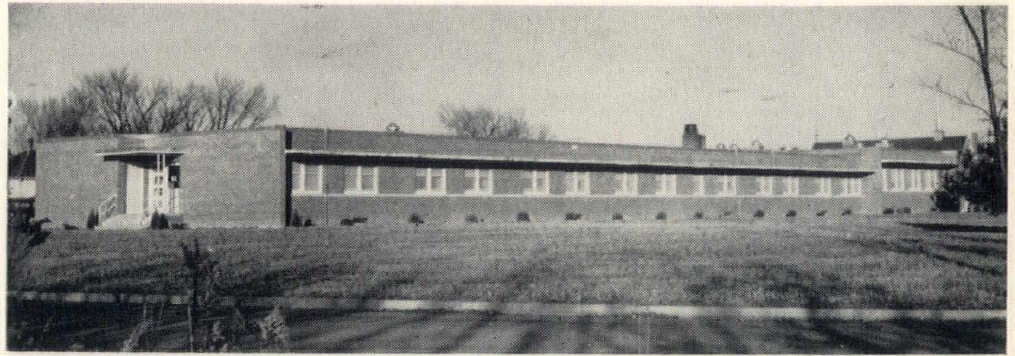
FOOD SERVICE ADDITION TO BIRCH HALL (under construction at right)



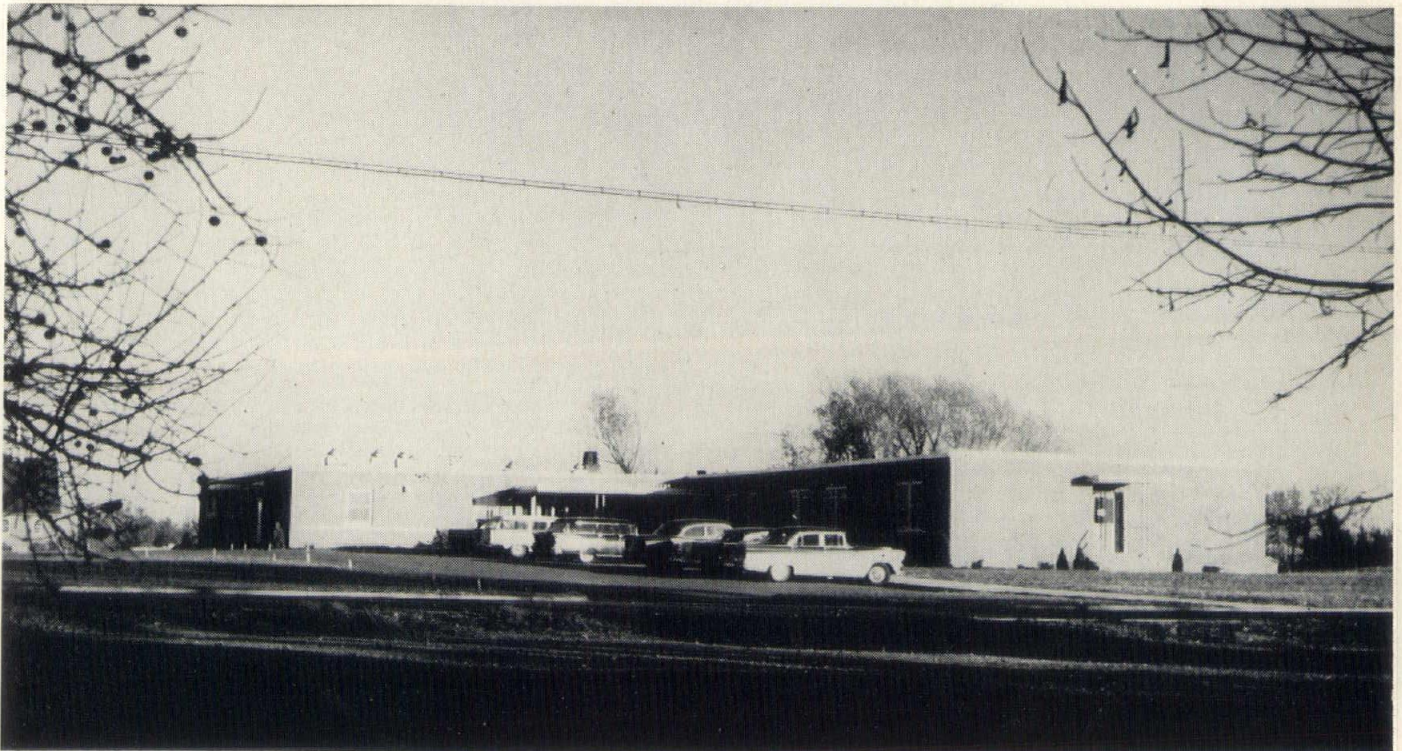


RIVERVIEW METHODIST CHURCH

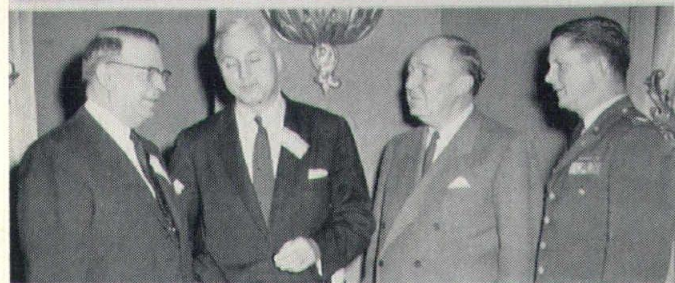
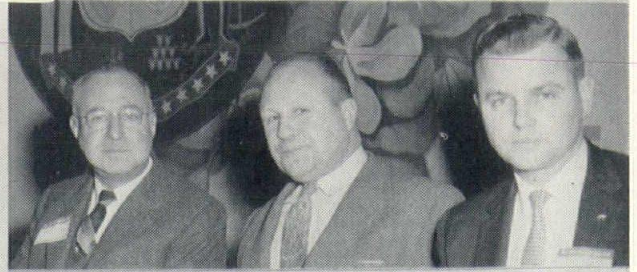
DULUTH



PINE COUNTY
MEMORIAL HOSPITAL—SANDSTONE, MINNESOTA



PUBLIC WORKS PLANNERS FROM NINE STATES MEET



Shown above are (l-r, row by row), Albert R. Shiely, executive vice president of J. L. Shiely Company, St. Paul; Maj. Gen. Gerald E. Galloway, Corps of Engineers; and Congressman John H. Blatnick . . . Frank Groves, president of S. J. Groves & Sons; Donald A. Buzzell, assistant manager of Heavy Division, A.G.C. of America; James Marshall, manager of National A.G.C.; and Robert Hendershott, manager of Minnesota A.G.C. . . . Jose B. Calva, president of Minn. Society of Professional Engineers; George W. Martins; alderman, Minneapolis; and Dave Roe, secretary of Minneapolis Bldg. Trades Council . . . Robert Ashbach, president of Ashbach Construction Co.; P. Wesley Johnson of the Bureau of Apprenticeship; and Ralph T. Keyes, executive director of State Association of County Commissioners, St. Paul . . . Dewey Short, Secretary of Army; W. H. Tusler, Magney, Tusler & Setter, Minneapolis; and Elmer Erickson, president of Minn. Good Road Assoc.

P. Wesley Johnson of the Bureau of Apprenticeship; Jose B. Calva of Minn. Society of Professional Engineers; Congressman Blatnick and an unidentified gentleman . . . Russel Ratigen, vice president of St. Paul Chamber of Commerce; Albert R. Shiely, executive vice president of J. L. Shiely Company; Congressman Blatnick; and Stuart Rothman, solicitor, U. S. Department of Labor . . .

A. R. Shiely, executive vice president of J. L. Shiely Company; Stuart Rothman, solicitor, U. S. Department of Labor; Dewey Short, Assistant Secretary of Army; and Colonel Bourbon, aide to Secretary Short . . . Louis W. Prentiss, Executive Director American Road Builders Association; Robert B. Crosby of Better Nebraska Assoc., Lincoln, Neb.; an unidentified gentleman; E. J. Rainey, vice president of S. J. Groves Company; Frank Marzitelli, assistant commissioner of highways, State of Minnesota; and Glenn Richards, commissioner of public works, Detroit, Mich.

The North Central Public Works Planning Conference on November 15 in Minneapolis drew architects, engineers, military experts, contractors and others from a nine-state area to hear about current problems in a number of public fields. The conference was split up into five workshops on road construction, school building, sanitation and water problems, hospital design and navigation and power development.

Basically sponsored by the National Resources Development Association, the conference was co-sponsored by a number of area groups, including the Minnesota Society of Architects, Minnesota Society of Professional Engineers and others. The opening luncheon was addressed by Stuart Rothman, solicitor in the Department of Labor, and the final dinner by Dewey Short, assistant secretary of the Army.

Pointing to the many new developments like the St. Lawrence Seaway, Mr. Rothman said he felt the outlook for this area is optimistic and holds "the promise of an accelerated growth of the American midlands."

"To meet this challenge in a free economy requires careful planning by and for the people involved, on a regional as well as a local and a national basis," he said. "Free labor and free management must plan together, with our public bodies, to keep America strong. . . . This conference is evidence of a healthy awareness that whether we realize our full potential in the future will depend upon what we do today. . . . Planning of public works is necessary at all levels of government."

He warned that all plans for the future must take into consideration the vital human element, which is basic in planning, and in putting plans into effect.

"Public works planners who disregard the human element . . . may find, when they start construction, that they do not have the skilled workers to operate the machines and use the tools or to provide for the consumer needs of the workers on the projects.

"Take the construction industry, for example. An increase in construction activity of about 30 or 40 per cent is predicted for the decade from 1957 to 1966, which should result in a substantial increase in the employment of building craftsmen. Yet, over the period 1950-57 some building trades have rather consistently failed to train enough apprentices to offset losses of journeymen by death, disability and retirement. This imbalance will be accentuated in the near future unless something is done quickly."

Mr. Short pointed out the four basic steps in planning—measurement of the needs, thrashing out an over-all plan, refining ideas into blueprints from which to work and finding the dollars to get the work done. He dealt primarily with the dollar situation in his talk.

"Do not be misled," he said, "Anything you wish the federal government to do, you pay for! For this reason it is in your personal interest to retain as much control in your projects as possible.

"In federal public works several noxious corollaries usually crop up. Bureaucrats, far away in Washington, can not possibly know your particular problems, nor your particular needs, nor your likes and dislikes half

as well as you do. If you forego your opportunity to initiate, plan, assist and supervise you really have little recourse if what you get is not what you want."

The speaker pointed out the growing demands for military progress to keep up with Russian developments and said this will naturally force curtailment of other kinds of work at times. However, he told his listeners to keep up their plans for the federal government wants and needs regional and local help.

"You have an excellent chance if you are willing to roll up your sleeves, pitch in and help," he said. "The government is ready and eager to give all the assistance it can. We have a concept of action worked out that we feel is the answer to what may have seemed an impasse. In actual applications so far it gives a much more satisfactory answer than the old hand-out method."

In addition to the two general talks each workshop heard speakers discuss the special problems with which they were concerned.



Among those at the conference were (top, l-r) Joe Bush of Northern States Power Co., Paul Beinhorn of J. L. Shiely Co., Sheldon Beanblossom of Minnesota Bituminous Pavement Association, and Hugo Erickson, city engineer of Minneapolis . . . (center) S. D. Leach and Jim Horan of Magney, Tusler & Setter, Bob Snow of Haarstick Lundgren & Associates and Don Magnuson of AGC . . . (bottom) Joe Shiely, Jr. of J. L. Shiely Co., John Morrissey and Art Fraser of Corning Donohue Co.

DULUTH - 1980

By Malcolm C. Drummond

Resident Planner, Harland, Bartholomew & Associates

The following presentation was made at a recent meeting of the Duluth Chapter, AIA, and is printed here with the kind permission of the author.

The possibilities, the probabilities and the certainties of the City of Duluth in the year 1980 vary in the minds of the citizens of the city. The chorus reads:

"Duluth will grow,
Duluth will not grow;
Duluth will grow,
Duluth will not grow."

The firm of Harland, Bartholomew and Associates was called upon to prepare a comprehensive plan for the City of Duluth. I shall attempt to review the factors that will cause the City of Duluth to grow and briefly to review the proposed recommendations necessary to meet an increased population.

The firm has been studying Duluth for a year and a half and it is our opinion that Duluth will grow. The questions are immediately raised—why will it grow and how big will it grow?

Our population studies were a part of the vast report on "Background and Planning." In that report we reviewed past population trends in Duluth, the county and the state, vital statistics, population changes by census tracts, land use trends, trends in the location of new housing, migration of population and compared Duluth's development with the United States and other cities of similar size. Our population projections estimate that Duluth will have a population of 143,000 by 1980. This is how big we think Duluth will be.

Why will Duluth grow?

Series P-25 of the United States Census Reports contain estimates of the future population of the United States. One of the projections is that there will be 228 million persons in the United States by 1975. To our present population of some 160 million persons, that will be an addition of 68 million. The majority of the population increase will take place within our present urban and metropolitan areas and Duluth is one of the 128 metropolitan areas in the United States.

For these additional 68 million persons we will need half again the industry, the products, the services and the agriculture that we presently have. For every two steel plants in our nation today we will need one more steel plant. For every four chemical plants today we will need two more by 1975. For every eight cement plants that we have today we will need four more by

1975. The productivity of our country must be increased by 50 per cent.

With the industries that will be needed in the United States to provide for the additional 84 million persons is it possible that some few of these will locate in Duluth and that some of the 84 million will locate here also? The answer is yes.

Why?

Duluth has space, Duluth has extensive railroad facilities, Duluth has a port, Duluth has a tremendous water supply, Duluth has air and highway connections, Duluth has an established economy, Duluth has ample utilities and potential power supplies, Duluth has advantages for industry.

It is true that Duluth does have many disadvantages in competing for new industries but its advantages on a long range basis are excellent. Many cities do not have space within their corporate limits or they have limited railroad connections. Duluth has plans and is building a greater port. The tremendous shortage of water in many areas gives Duluth a real advantage in Lake Superior. The city's financial ability in private capital puts it in a good position to receive industrial growth.

It has been demonstrated time and time again that new industries, expanding industries and relocating industries are not only interested in distances to market, labor force, taxes and transportation but they are definitely interested in the general desirability of a given community, its people, its appearance, its municipal finances, its progressive attitude and other similar factors.

For the City of Duluth to obtain a 1980 population of a 143,000 persons it must get 130 new basic jobs each year for the next 23 years. This is based upon the 2-to-1 basic service employee ratio and the present average of 2.4 dependents per worker.

What will 36,000 new persons in 23 years mean to the City of Duluth?

As to housing it will mean that there will have to be 29,736 new dwellings built during this 23-year period. These new dwellings will be needed to replace presently obsolescent dwellings and to meet the demand for new homes for new people. This means that there will have to be 1,249 new dwelling units every year. As to automobiles it is estimated that there will be 77,077 vehicles registered in 1980, compared to our present 48,000 vehicles.

Future school enrollments are estimated at 28,405

NORTHWEST ARCHITECT

pupils, compared to our present 19,830. The total effective buying income is estimated at 236 million dollars compared to the present 175 million.

Seven reports of the comprehensive plan have been presented to the City Planning Commission. These reports contain the proposed facilities necessary for the future growth of the city. A network of major streets with an expressway 12 miles long is in the plans and presently under development. It is estimated that the traffic in the city will increase 2.4 times.

This traffic increase will create tremendous parking space demands in the business districts and shopping areas. Eight parking garages have been proposed for the central business district, providing 3,555 parking spaces. These parking facilities are needed in the very near future. For the year 1980 a total of eleven parking ramps is recommended, which would provide 9,059 parking spaces.

The proposed school system for the year 1980 includes nine new elementary schools with 115 classrooms, 79 classroom additions to existing elementary schools, two new junior high schools with 75 classrooms, 29 classroom additions to existing junior high schools and one new senior high school with 24 classrooms. This is a total of 327 new classrooms during the next 23 years.

Extensive recommendations were developed regarding parks and recreational facilities. From the standpoint of buildings one field house, two rest stations, certain zoo building additions, two swimming pools with bath houses and two boat marinas are proposed.

Studies of existing governmental agencies indicate that state offices will require sixty to eighty thousand square feet of office space. Proposed plans include a State Office Building as an addition to the present Duluth Civic Center.

In addition to the present Central High School, junior high school and main library a new main library is proposed providing 63,000 square feet of floor area.

A large municipal auditorium with a capacity of 4,700 is a part of the above mentioned educational and cultural building group. Six new branch libraries and fire stations are a part of the proposed plans. These are only a part of the proposed facilities for the City of Duluth.

Will Duluth have an increased population by 1980, attract new industries and attain a position as a major Great Lakes seaport? The answer to this depends on the people of the City of Duluth!



Our top picture shows the officers of the North Dakota chapter (l-r) Secretary Jack Askey of Bismarck, President Herman Skaret of Fargo, Vice President Myron Denbrook of Grand Forks and Treasurer Walter Johnson of Fargo. Center picture shows G. I. Horton, Bill Meyers of Minneapolis Builders Exchange, President Jack Hustad, Jr., of Minn.-Dakota PC, and Bill Hawes, district engineer for American Institute of Steel Construction, Minneapolis. Lower picture shows Harold Brunner, retiring president of the North Dakota group, Minot, Ole Braseth and Bryant Hadley, regional AIA director, Springfield, Ill.

NORTH DAKOTANS ELECT HERMAN SKARET CHAPTER PRESIDENT

North Dakota State AIA members elected Herman Skaret of Fargo as president of the chapter for 1958 at the recent convention in Jamestown, N. D. He succeeded Harold Brunner of Minot as head of the organization.

Other officers named during the sessions were Myron

Denbrook of Grand Forks, vice-president, Walter Johnson of Fargo, treasurer, and Jack Askey of Bismarck, secretary. Directors named were Edward Staszko of Fargo and Gilbert Harton of Jamestown.

Some members of the Minnesota-Dakota Producers' Council Chapter took part in the program of the con-



Season's Greetings

EXPRESSING OUR APPRECIATION OF YOUR COURTESIES DURING THE PAST YEAR, AND PLEDGING OUR SINCEREST EFFORTS TO BE OF BETTER SERVICE TO THE ARCHITECTS OF OUR GREAT NORTHWEST DURING THE COMING YEAR.

WE WISH EACH OF YOU AND YOURS CONTINUED PROSPERITY AND ALL THE GOOD THINGS IN LIFE DURING THE NEW YEAR.

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vention and there were exhibits of materials and methods. The group from PC was led by Chapter President Jack Hustad, Jr.

In our montage of pictures taken in the exhibits we identify left to right—1-Bill Harris, Grand Forks, G. I. Horton, Jamestown, and Rollin Child of U. S. Ceramic Tile Co. . . . 2-Dick Stein of Pittsburgh Plate Glass Co., Jack Askew, Bismarck, and Bob Anderson of Granco Steel. . . . 3-C. P. Schulz of Sargent & Co., Perry Clark, Fargo, and D. N. Fleming of Sargent. . . . 4-Bill Ott, Les Blake, Williston, and Norm Nelson of Otis Elevator. . . .

5-Harold Christenson of Armstrong Cork and Loran Huber, Jamestown. . . . 6-Buck Gallagher, Ken Johnson, Fargo, and Carroll Bell of Fenestra, Inc. . . . 7-Knute Henning, Fargo, "Hooch" Hodge of L.C.N. Closers, Inc., Lawrence Wagner, Grand Forks, John McCall, Fargo, Glen Iverson, Grand Forks, and Wen Ringheim of L.C.N. . . . 8-C. L. Wetzler of Structural Clay Products Institute, Perry Clark, Fargo, R. T. Reid of Owens-Corning Fiberglas and Harold Henning, Grand Forks. . . . 9-Al Presenza of Roddis Plywood and Cecil Lerew, Jamestown.

ECONOMIC FOOTNOTE—WHENCE COME INCREASED WAGE FUNDS

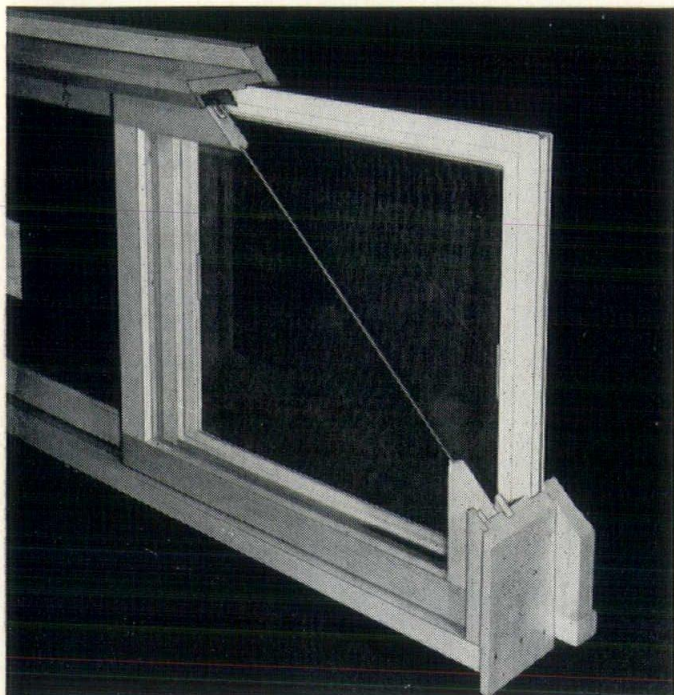
Take wage increases out of profits?

"No, indeed," says a release from the National Chamber of Commerce. "The notion is a pretty bauble to lure the unwary into economic trouble." That's the view advanced in "The Mechanics of Inflation," a new National Chamber publication. The study goes on to smash the bauble with such facts as these—pay of non-government employees increased \$91 billion between 1945 and 1955, while corporate profits after taxes increased \$6.6 billion.

Where, then, does the money for the persistent union wage hikes come from? At first glance, it looks as if it must come out of the hide of the non-union employe who pays the higher prices made necessary by higher union wages. But the study points out the amount of money you can get out of a person's hide is limited. High prices could cut down sales, thereby creating unemployment. In addition, the non-union employe wants wage hikes, too.

Resulting political pressures, the study says, turn on "the true sources of inflation: government monetary and fiscal policies which increase the supply of money and credit."

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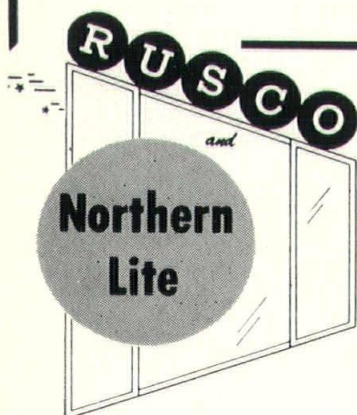
• **NORTHERN-LITE MEANS ADDED SELLING FEATURES!**

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Architects Bogged Down By Routines

Too much attention to routine required by the architect's office and studio setup can take a lot of the pleasure of designing and planning out of his life, according to David C. Baer, AIA of Houston, Texas, who spoke as a representative of the AIA committee on office practice before this fall's Midwest regional conference.

"The practice of architecture should not be a nose-to-the-grindstone thing," Mr. Baer said. "Architecture should be fun. Today there are many aspects of our work which apparently have reduced the measure of pleasure obtained from the practice of our chosen profession to an unsatisfactory level. That such 'offensive' responsibilities are increasing is real cause for alarm among the gentry of the drawing board and design table.

"Business and architecture now are intermingled. To qualify as architects we must build that which we plan. Further, there are certain procedures and, I may add, responsibilities connected with spending people's money for buildings. It may be inconvenient but it is logical that many of our clients should call for sound and recognized procedures for spending and accounting for such money. To some of our brothers in practice this apparently smacks of regimentation. It is considered something that actually should be ignored with conscious effort. Authority for the above statements comes from the tabulation of replies received in the Survey of Architectural Practice recently completed by the Institute.

"Less than one half the practicing architects use a date stamp to fix the dates on which mail, shop drawings and other items arrive in the office. With so small a percentage using such a simple but universally recognized office tool it is not surprising that a similarly small percentage has adopted other recognized and standard office procedures and aids.

"More than 50 per cent of our offices have no established standard dimensions for working drawing sheets or have ever had such sheets preprinted. Less than 25 per cent of these offices prepare a budget of office expense for each job and less than 35 per cent normally set up an office job progress schedule or make use of an 'Indirect Expense Factor' in allocating indirect office expense to job production expense. Only seven per cent have a prepared statement of the procedure to be followed in processing a job through the office.

"Almost 250 separate forms and aids to office procedure were received as samples from selected larger offices in answer to direct requests. Our practicing members, however, do not follow these leaders who were canvassed in devising or adopting such aids to practice. Only 25 per cent maintain either a temporary or permanent directory of firms or individuals identified with each project. Only one-half keep a written record of drawings issued and only the same proportion actually obtain an estimate of cost for each project or set up a check list of shop drawings required. Only twenty-five per cent maintain a record of samples to be furnished

or a checklist of insurance required for the project. Less than 15 per cent provide a place on drawings for owner's approval signature.

"In the matter of obtaining commissions for the office and maintaining client relations, less than one half of our architects in practice report that they maintain a brochure of their firm's experience, have printed material on the architect's usefulness and function or follow a policy of sending out photographs, press facts and releases to public opinion channels.

"Less than one-half follow the standard and basic accounting principle of charging an hourly or per diem rate for principals' time chargeable directly to a project being handled on the basis of a Multiple of Direct Personnel Expense. An important segment of our practitioners obviously still subscribes to the theory that business and architecture should not mix. Perhaps they fear that fun will vanish if business principles and procedures are accepted and adopted.

"The architectural profession should be coming of age at this, the beginning of the Institute's second century. Architects in practice should recognize that adopting adequate standard office procedures and aids to practice is actually being sensible and intelligent. Sound standard office procedures should assure better practice and fewer adventures into trouble. They should result in an increase in time for the pleasantries of practice and finally in more fun from the practice of architecture.

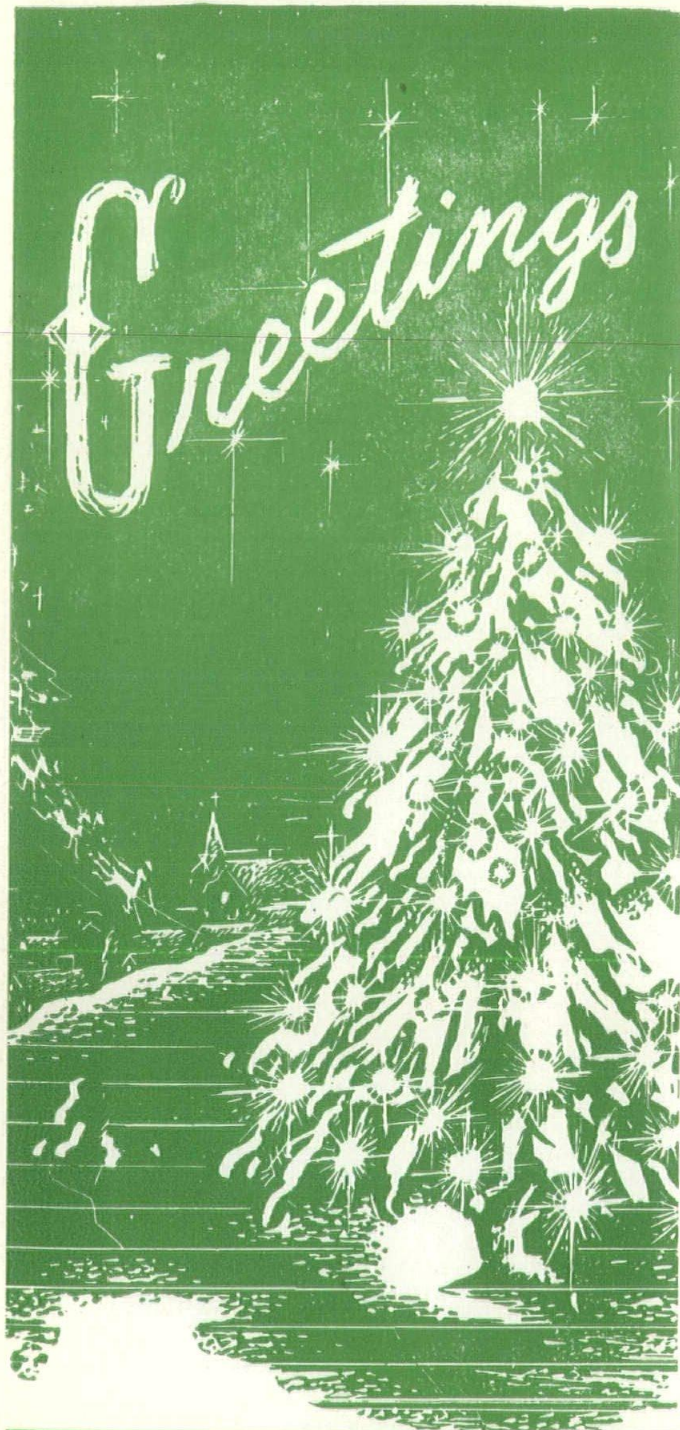
"Standardized procedures adaptable to the practice of most of our architects can be developed. The 'Business' in architecture need not blank out the fun if business procedures are simplified, standardized and then relegated to their essential place in the background. As architects we should be good businessmen but not necessarily at the expense of enjoying and having fun from the practice of architecture."

NAPIER OF LOVERING COMPANY DIES

William F. Napier, president of the Lovering Construction Company, St. Paul, died on November 28 at the age of 33 after an illness of several months. He was a son-in-law of Harry D. Lovering and had been elected as president of the firm recently, at the same time Mr. Lovering became chairman of the board.

Mr. Napier was elected a director of the Builders Exchange of St. Paul in December, 1956, and was still serving on the board at the time of his death. He had also been chairman of the Builders Exchange civil defense committee since 1954. He served recently on the labor committee of the Associated General Contractors of Minnesota.

A native of St. Paul, he was a graduate of the University of Minnesota, where he studied in the schools of architecture and business administration. After serving in Europe in World War II, where he was awarded the Purple Heart and the Bronze Star, he completed his education and then joined the Lovering firm in 1951. His activities in the construction field made him widely known throughout the Northwest.



In expressing our best wishes for a happy holiday season we wish also to thank you for the generous co-operation you have extended on many occasions during the closing year.

We have enjoyed the pleasant association with you, and look forward to its continuance for many years to come. May the New Year bring to you an abundance of good health, happiness and prosperity.

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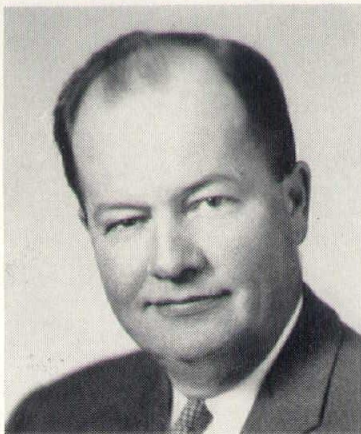


Minnesota

JOHN MAGNEY CITED FOR WORK IN PROMOTING MODULAR CO-ORDINATION

National recognition for design leadership was accorded Minneapolis architect John R. Magney during the Eighth National Conference on Standards held in San Francisco on November 13-15. Mr. Magney, a partner in Magney, Tusler and Setter, was cited for bringing modular measure to the Upper Midwest and encouraging the use of orderly building standards in the nation.

He was presented the 1956 Modular Award for Design by the American Standards Association at its



Mr. Magney

annual awards banquet. The award jury included representatives of the American Institute of Architects, the Producers' Council, the National Association of Home Builders and the Associated General Contractors of America.

ASA President H. Thomas Hallowell, Jr., said the award "is a tribute to your leadership and a profound expression of the esteem held for you by your colleagues."

Mr. Magney was one of the early leaders in adopting the four-inch module, which he describes as "the only system architects have ever had." Magney, Tusler and Setter was the first firm in the Twin Cities area to make modular measure standard operating practice and one of the first firms to utilize the system in the Upper Midwest. The firm adopted modular measure shortly after World War II when Mr. Magney was chief draftsman. He became a partner in 1952.

Mr. Magney said the modular measure "saves time and money and reduces the chances for error found in older practices that involve numerous fractions. Yet it in no way restricts the designer. It makes the contractor's work easier and provides an orderly system that results in better buildings for clients."

A graduate of the School of Architecture of the University of Minnesota, Mr. Magney later attended the Harvard School of Design. He began his architectural career in Duluth, working for C. H. Smith, in 1937-38. He worked in La Crosse, Wis., and Chicago, then served as a lieutenant in the naval reserve during World War II.

He joined Magney, Tusler and Setter in 1945. The firm was founded by his uncle, G. R. Magney, now retired, and W. H. Tusler, present senior partner.

ST. PAUL CHAPTER HONORS SCHOOL BOARD, SUPERINTENDENT

The St. Paul AIA Chapter recently presented citations to Dr. Forrest E. Conner, St. Paul superintendent of



Mr. Howe and Mr. Coulter

schools, and the St. Paul School Board for outstanding public service. The awards were presented at the regular school board meeting on November 5.

Robert E. Howe, president of the St. Paul chapter, said the awards were made for "devotion to the high aim of better public schools in St. Paul, patient determination in the face of frustrations and constant regard for the best interests of the public served." Identical awards were presented to Dr. Conner and to the school board as a unit.

Board members are William T. Coulter, president; Mrs. Fred L. Paul, vice president; Paul W. Mielke, secretary; Gerald J. O'Donnell, Charles L. Rafferty,

Chapter, Club and other news . . .

Mrs. M. M. Sarnecki, and Robert H. Tucker. Mr. Coulter is president of Bruce Publishing Co., which publishes the NORTHWEST ARCHITECT.

FRED OTTO, CONSULTING ENGINEER, DIES

Fred Otto, well known Twin Cities consulting engineer, died early in November. Mr. Otto, who was active in professional organization work in his chosen field, was one of the organizers and a charter member of the Minnesota Association of Consulting Engineers. His

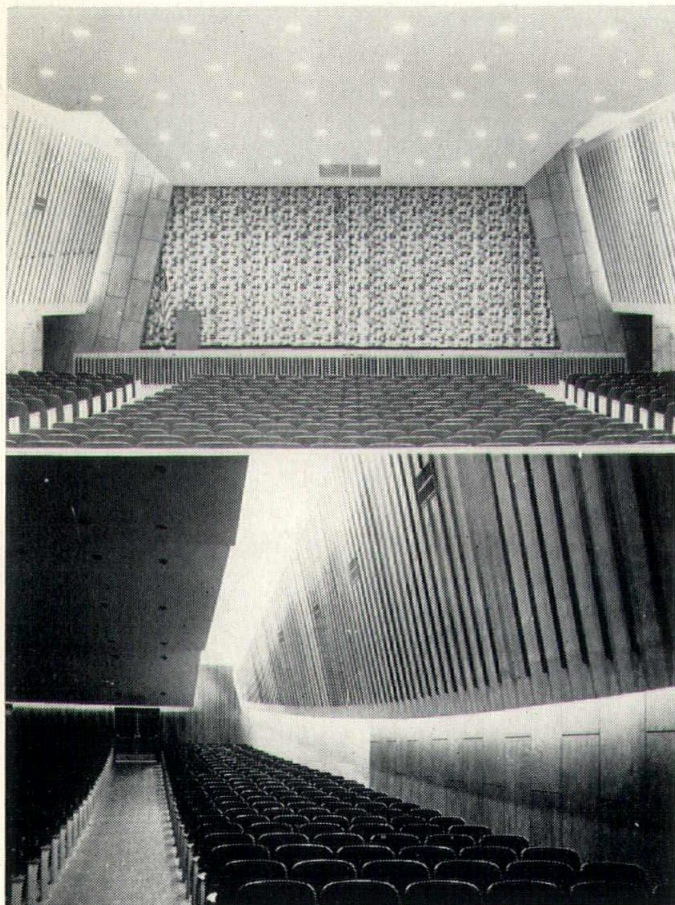
work in the field was well known and he was instrumental in furthering development of the profession's standing in his own and neighboring communities as well as the state.

HAARSTICK-LUNDGREN GET LIGHTING DESIGN AWARD

Haarstick Lundgren and Associates, Inc., St. Paul architects and engineers, have been awarded an honorable mention for design of the lighting installation in the auditorium of the Como Park Junior High School. The award was granted at the 1957 International Lighting Competition, sponsored by several electrical magazines, with the co-operation of the National Lighting Bureau of the National Electrical Manufacturer's Association.

The annual competition is planned "to foster and encourage the design, sale, installation and use of better lighting for maximum seeing comfort in the home, at work and at play; and to stimulate greater interest and activity toward continuing progress in electrical illumination," according to the sponsors. The contest was open to architects, engineers, contractors, distributors, and electric utilities for installations completed within the period January 1, 1956, to October 25, 1957.

Como Park Junior High School is designed for 1,200 students and was completed a year ago at a cost of \$2,060,000. The auditorium seats 750.

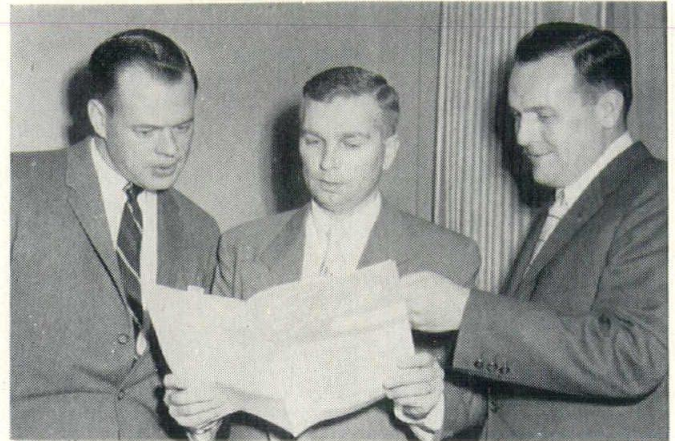


Two views of the prize winning lighting are shown here—a general view and side detailing.

CONSTRUCTION SPECIFICATIONS INSTITUTE CHAPTER BEING SET UP

A Minnesota Chapter of the Construction Specifications Institute is being set up as the result of a recent meeting of a group of 27 persons who heard J. Stewart Stein, vice-president of the CSI (National) outline the purpose of the CSI.

In attendance were 13 active CSI and four associate CSI members along with 10 others who expressed an in-



George Otis of Edward Sales, John Anderson of Hills, Gilbertson & Hayes, and Rollin B. Child of U. S. Ceramic Tile (l-r) look over preliminary material on the chapter.

terest in the organization. Mr. Stein, AIA from Chicago, spoke of the national organization and traced it through the Midwest Council down to the chapter level (specifically his own Chicago chapter), touching also on the future of specification writing with regard to education of spec writers through our educational systems.

At this meeting it was agreed to organize a Minnesota Chapter. National membership, costing \$12.00, is required before an applicant can apply for chapter membership. No definite dues settled on local level at this time. John C. Anderson of Hills, Gilbertson & Hayes, Minneapolis, was named temporary chairman, and Glenn W. Cording of Cording & Mastny, Minneapolis, temporary sec'y.-treas. Arnold Hartwig of S. C. Smiley & Associates is membership chairman; George Otis of Edward Sales Corporation is vice-chairman; Roy Thorshov of Thorshov & Cerny is by-laws chairman; Lee Dahlen of Hammel & Green is vice-chairman; Burt Flick of Bettenburg, Townsend & Stolte is program chairman; Clint Fladland of Western Mineral Products is vice-chairman; and Rollin B. Child of United States Ceramic Tile Co. is also active in getting the organization set up.

REYNOLDS AWARD REQUIREMENTS ANNOUNCED FOR 1958

Requirements for submission of work to be considered for the second annual R. S. Reynolds Memorial Award for Architects have been announced through the AIA, with the nomination deadline set for January 15, 1958. The winner will be notified in May.

The award carries an honorarium of \$25,000 and a plaque. It was set up in memory of the late Richard

NORTHWEST ARCHITECT

PHOTO BY LIONEL FREEDMAN



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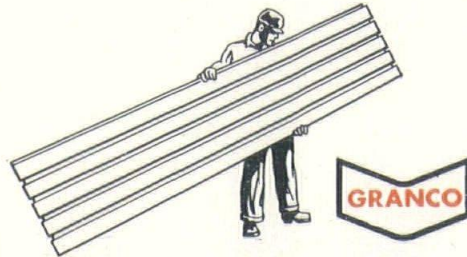


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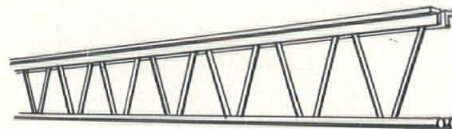


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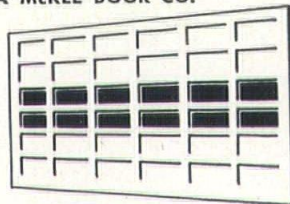


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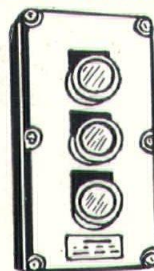
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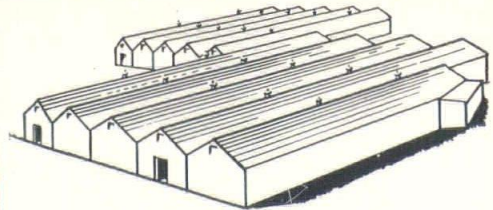


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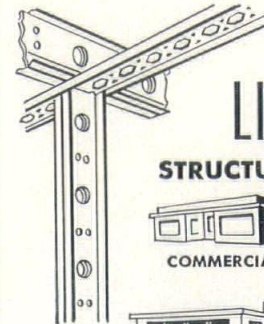


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S. Reynolds of Reynolds Aluminum and it is international in scope. The first award, that for 1957, went to two architects in Madrid, Spain.

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The awards jury is selected by the executive committee of the AIA and is made up of five leading architects. The group selects its own chairman. Judging has been set for May 5 and 6 in AIA headquarters in Washington. Preference is given to work completed during the 12 months prior to the year for which the award is made although earlier work is eligible.

Full details can be obtained either through local chapters of AIA or directly from its headquarters.

HAUSER, SCHIMKE AND SHELLEY LECTURE AT U OF MINNESOTA

Three lecturers in the School of Architecture, University of Minnesota, have been announced by Ralph Rapson, head of the school. Alonzo Hauser and Robert W. Schimke are part-time lecturers and Joseph M. Shelley is replacing Fred Koeper during his sabbatical year.

Mr. Hauser, well known sculptor whose nude "Promise of Youth" has been the subject of much argument and has not been placed in the capitol approach in St. Paul for which it was created, is a native of La Crosse, Wis. Educated in Wisconsin State College, Layton School of Art in Milwaukee, University of Wisconsin and Art Students' league in New York, he has taught at Layton, Carleton College and Macalester College. For a time he was employed by the Resettlement Administration and has executed many commissions throughout the Upper Midwest.

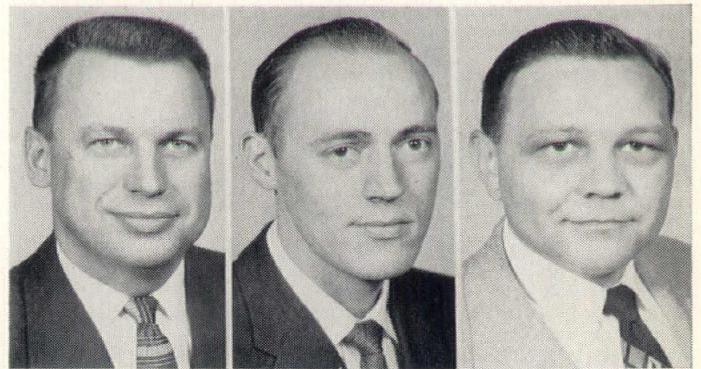
Mr. Schimke is a Minneapolitan by birth and took his B.A. in architecture at Minnesota in 1948. He holds a Master in Architecture degree from the Royal Academy of Arts and Architecture in Stockholm. After being employed by a number of Chicago architectural firms

he went to Thorshov & Cerny, Minneapolis, and started his own practice in Minneapolis in 1957.

Mr. Shelley will lecture on the history of architecture and on design. A native of Pennsylvania, he now resides in Glenwood Springs, Colo. After studies at Yale and M.I.T. he was a fellow in the American School of Classical Studies in Athens from 1931 to 1935. He has been an instructor in the U. S. Military Academy at West Point, assistant professor at the University of Denver and associate professor at the University of Utah. He replaced Mr. Koeper for the year 1957-58.

NEW CONSULTING ENGINEERING FIRM FORMED

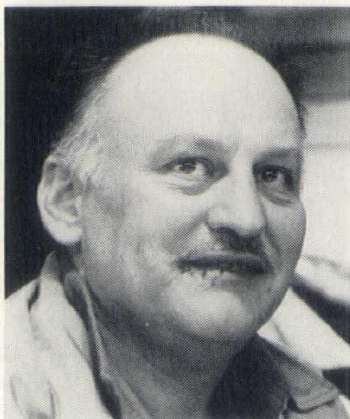
A new consulting engineering firm under the name of Olson, Emanuelson and March has been formed in Minneapolis. The new firm was organized by Clifford T. Olson, Robert F. Emanuelson and Harold T. March,



Messrs. Olson, Emanuelson and March

all recently employed by Magney, Tusler & Setter, Minneapolis architectural and engineering firm.

Mr. Olson and Mr. Emanuelson hold Bachelor of Mechanical Engineering degrees from the Institute of Technology, University of Minnesota. Mr. March attended the Institute of Technology, University of Minnesota, majoring in electrical engineering, for three and one-half years. All three partners are registered to practice engineering in the State of Minnesota in their respective fields. Offices of the new firm are located in Room 207, Sexton Building, Minneapolis.



Mr. Hauser



Mr. Schimke



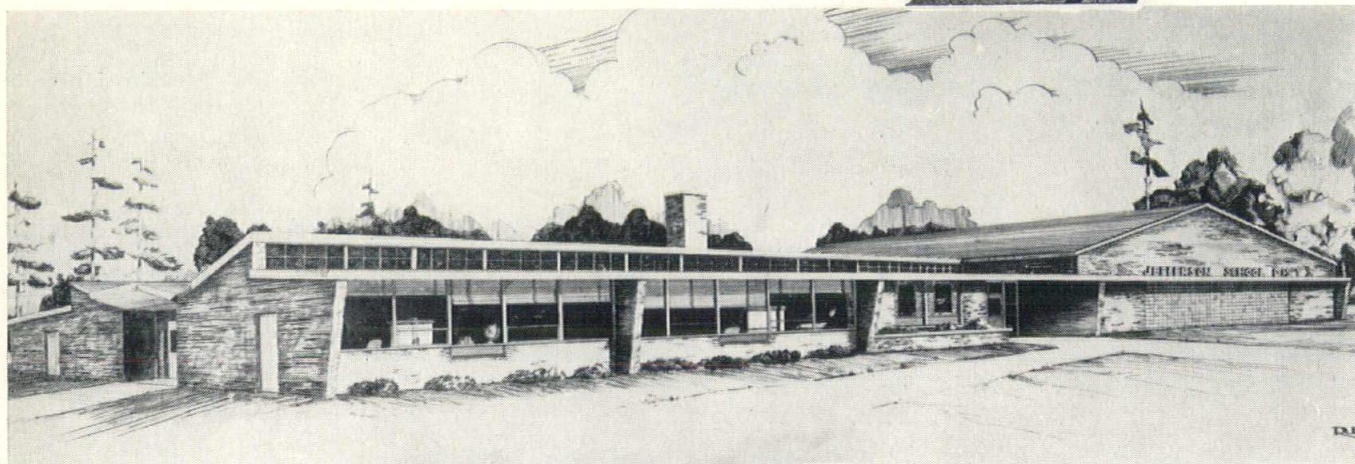
Mr. Shelley

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COULTER ELECTED VICE-PRESIDENT PRODUCERS' COUNCIL

To serve out the unexpired term of Bert Powers, Pittsburgh Plate Glass Company, members of The Minnesota-Dakota Chapter of Producers' Council recently selected James A. Coulter, of Keelor Steel Company, Minneapolis, to be vice-president of the group. Mr. Coulter represents Granco Steel Products Company with Keelor. Mr. Powers has been transferred to the Cleveland office of his company.

ARCHITECTS' CO-OPERATION ASKED IN UNITS HEAVY ON HIGHWAYS

Co-operation of architects in helping prevent undue loads traveling on state highways has been asked by the Minnesota Department of Highways in a letter to the executive director of the Minnesota Society of Architects.

"Under the law governing the moving of loads whose overall dimensions and weight are in excess of those allowed on the trunk highway system of the state, such loads can only be moved on the basis of an emergency existing and then only with a permit outlining the manner in which they shall be moved so as to prevent damage to the highways and assure safety to the traveling public," the letter from Highway Commissioner L. P. Zimmerman said.

"There seems to be a growing practice on the part of architects designing buildings in this area to include in their designs fabricated trusses and rolled beams of lengths in excess of the legal lengths allowed by law to be moved on our highways.

"In our own work we sometimes feel it necessary to design sections that are likewise longer than legal lengths. In so doing, however, we provide in our specifications that no unit shall be moved over the public highways except from the nearest railroad shipping point to the bridge site when such a member is in excess of 60 feet. We also do allow under certain conditions the cutting of a member and then welding it together again on the bridge site.

"We have no desire to suggest or dictate any particular policy of this kind to the designing architects of this area but we would like to suggest that if they do not feel disposed, or can not follow our method of handling such situations, that they should include in their special provisions that, where any member is in excess of 60 feet, it be shipped by rail to the point nearest the building to be constructed. We feel rather definitely that there will be a great many instances where we will have to refuse a permit for a trucker to haul members in excess of 60 feet in length and it is our thought that some confusion, and certainly irritation on our part, can be eliminated if your profession will kindly co-operate in adding this suggested requirement to their specifications."

SPECIAL SESSIONS FOR ARCHITECTS PLANNED AT HOME-A-RAMA

One of the new features of the 1958 Home-A-Rama in the St. Paul Auditorium, February 15-22, will be

NOVEMBER-DECEMBER, 1957



Congratulations for new Vice President Coulter (center) are extended by J. H. Campe, American Olean Tile Co., newest member of the Producers' Council, while President Jack Hustad, Jr., stands by.

special sessions on two weekday afternoons to which all local architects and home building contractors will be invited, according to George S. Withy, chairman of the Home-A-Rama committee. A smorgasbord lunch will be served by the Show sponsors after which the guests will inspect the many exhibits.

"Most people who plan to build new homes rely on the advice of both architects and builders in matters of exterior design, room arrangement, selection of materials and equipment, landscaping and the like," Mr. Withy said. "These men are constantly studying new materials and techniques used in home building and we feel that they will be eager to study the more than 200 displays in the Home-A-Rama for new ideas which can be passed on to their clients."

Exhibitors of the various products will be on hand during the special afternoon sessions to explain their newest materials and to answer questions regarding their uses in homes. The exposition will not be open to the public on weekday afternoons. Show hours will be from 5-11 p.m. daily and from 2-11 p.m. on Saturday and Sunday for the general public.

The Home-A-Rama will be presented entirely by the building industry with the builders exchange as sponsor and other trade groups such as the St. Paul Home Builders Association and the St. Paul Lumber and Millwork Dealers co-operating in preparations for the event, Mr. Withy said. The show will have an entirely new look with a new arrangement of displays, new backgrounds for the booths and several large group displays of related products. Admission to the public will be free and an all-time record attendance is expected.

Exhibit space is now more than 50 per cent sold out, according to Ray A. Thibodeau, builders exchange secretary who is handling display arrangements.

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JYRING IN INDIA TO HELP BOOST SMALL BUSINESS

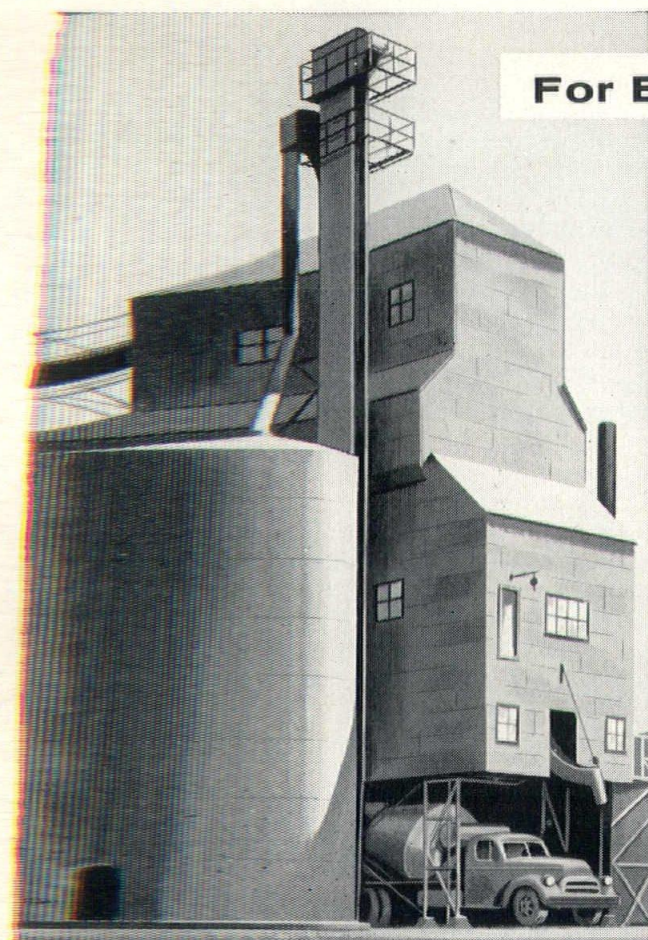
E. A. Jyring, Hibbing architect, left for Bombay, India, on November 23, where he met William L. Graham of Wichita, Kansas, and Paige Lamoreaux of Los Angeles, California. They will make available loans for small enterprises in India through the facilities of an organization called Private Enterprise, Inc., of which Mr. Graham is president.

Mr. Graham on a recent world vacation was ap-

palled by the lack of capital available to ambitious and deserving people in Asia. To him it seemed that no one knew about free enterprise and how it worked. In Bangkok, Mr. Graham announced a plan to give five willing and able local enterprises the same chance he had when he was young and he made available a number of \$5,000 loans for some new businesses to get started, the profits to be shared fifty-fifty until the borrower could pay back by returning the original loan. Mr. Graham said this is business, not charity.

When Mr. Graham returned to the United States he attended the International Industrial Development Conference in San Francisco and interested American businessmen in investing in his venture. Private Enterprise, Inc., has raised approximately \$250,000 from various United States citizens to be invested in India or other countries on a small investment scale. Private Enterprise, Inc., would own fifty per cent of any business so started and would get fifty per cent of the profits until such time the other fifty per cent owner could buy out PEI and PEI would then withdraw from such business partnership.

Mr. Jyring spent two years in Africa during World War II and was greatly distressed at the amount of human and natural resources which are wasted in the underdeveloped countries of the world because the people do not have capital or a chance to borrow money to start small enterprises in the manner that we do in America. Mr. Jyring said he thought a great deal about this ever since the war and talked to various



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people about means of promoting private capital to be invested in the underdeveloped countries for small enterprises. When he heard of Private Enterprise, Inc., and the opportunity to go to India with Mr. Graham and Mr. Lamoreaux to help invest these funds, he "did not hesitate one minute."

"I realize there are many problems to be worked out and a lot of hard work to be done to overcome local prejudices, to make sure the investments are proper and work out all the thousand other problems that could be faced by a venture of this nature," he said.

"There is, of course, considerable enthusiasm for this program. Mr. Graham had 500 applications from people in India when he visited there last, asking to be helped with a plan similar to that he had started in Bangkok. G. D. Birla, chairman of the United States Commercial Bank, Ltd., Calcutta, India, is very much interested in this project and has stated that he would match funds, up to \$200,000, that were brought to India under this plan."

Mr. Jyring stated that this is somewhat of an idealistic or Boy Scout type of a project but he believes we must be idealistic these days or the people in the underprivileged parts of the world will listen to the tough, hard totalitarian voices that offer relief to them. Therefore, he feels that this is a worthwhile cause to devote his energies and time to. Mr. Jyring hoped to return to the United States by Christmas.

M-T-S UPS THREE IN BUSINESS AND DRAFTING DEPARTMENTS

Magney, Tusler and Setter, Minneapolis architects and engineers, have announced appointment of a new business manager and two promotions in the firm's drafting department. Ronald R. Link has been made



Messrs. Matson, Link and Horan

business manager, a new position created this month. Gordon Matson has been promoted to chief draftsman in charge of architectural working drawings and specifications, a position formerly held by James Horan, who moved up to become a project manager.

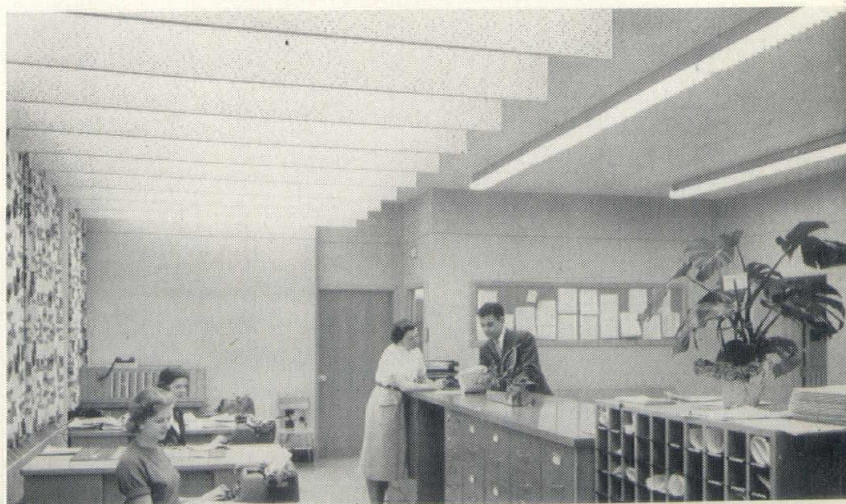
Mr. Link is a graduate of the School of Commerce of St. Louis University and a certified public accountant. He formerly was assistant secretary-treasurer of

(Continued on Page 53)

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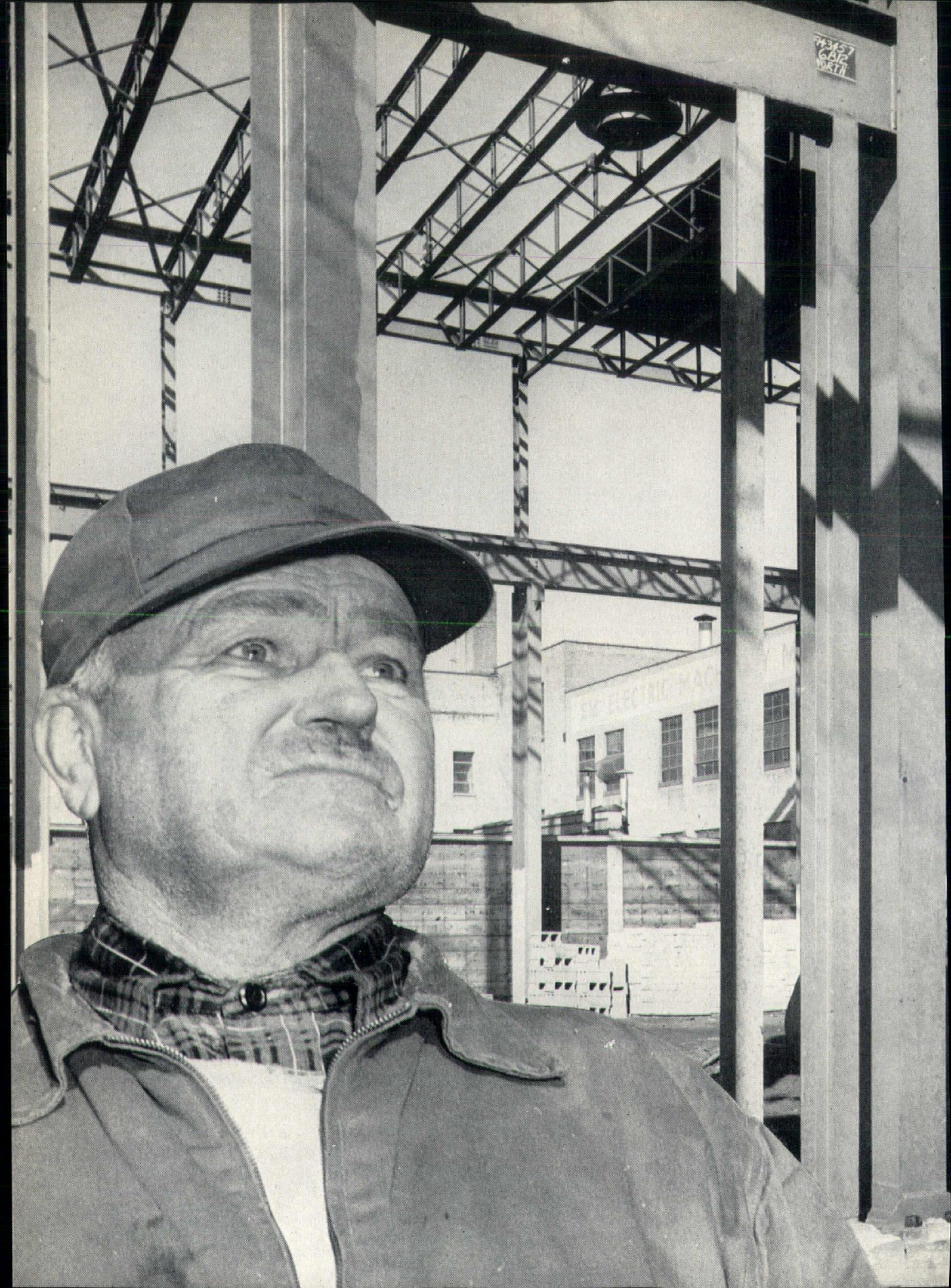
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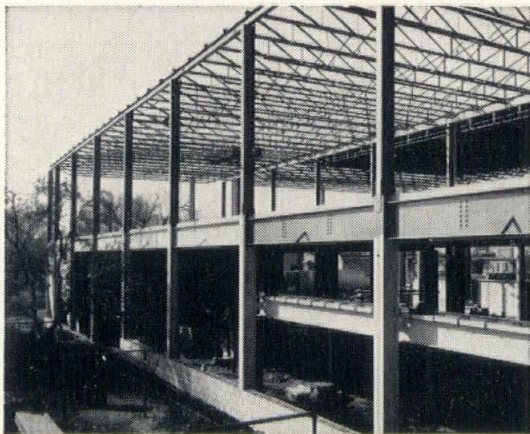


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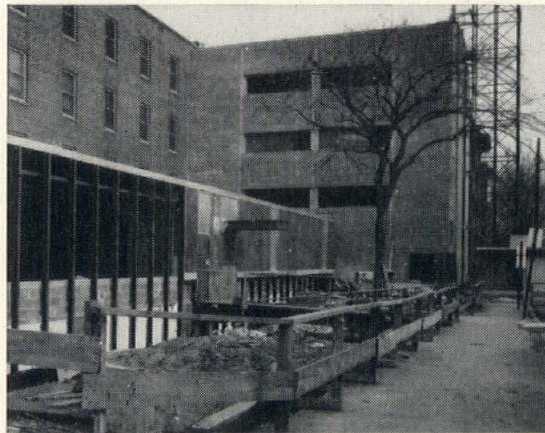
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ABBOTT HOSPITAL
Architect: Magney Tusler & Setter
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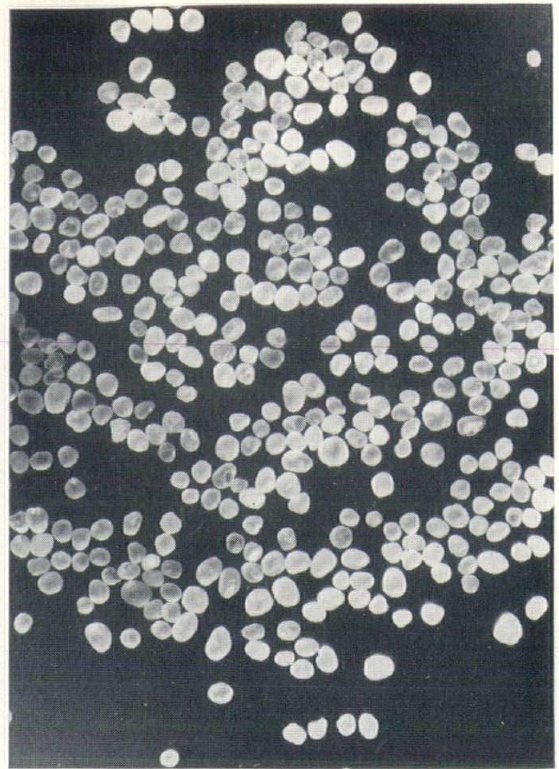
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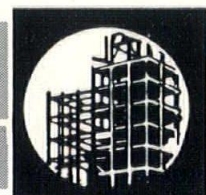
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Colwell Press, Inc., of Minneapolis. He is married, has four children and lives in Richfield. He is a member of the Minnesota Society of Certified Public Accountants.

Mr. Matson, an associate in the firm since 1954, is a graduate of the School of Architecture of the University of Minnesota. He was formerly chief specifications writer and he will continue to direct this work.

Mr. Horan, an associate since 1955, also is a graduate of the School of Architecture of the University of Minnesota. He has been with the firm since 1950.

THE BUILDERS' GLORY ROAD

By Dr. Carl S. Winters

Presented at the North Central Regional Conference

I am proud to address such a distinguished group of Architects. . . . As we look into another century of architecture we had better thank God that we live in a country where the ceiling is the limit. I often say that no man ever knows what America is until he sees how the rest of the world lives. You are mid-point in the twentieth century, which can be the turning point of all centuries. There is power in the values and dreams that made America great and will keep America right.

Your dream in architecture. . . . I am capable of talking about this dream of yours which is the framework in which the architect works. Architects dream their dreams and the builders make dreams come true. They shape the world anew. The architect works hand-in-hand with God. That puts a framework about your business. There are many buildings that lift your mind, like the Taj Mahal.

A colored choir once sang in my church. It sang a spiritual that I had never heard before and have not heard since—"Oh, God, give me a glory, you have got to have a glory or you just don't live; give me a glory and a workman's pride, you have got to have a glory or you're dead inside!"

You judge a man's life by his finest . . . by the things he is able to do and the dreams he has. But you have to have the tools also. I remember seeing a tombstone in a Negro cemetery out East that bore the epitaph "I fought a good fight, but my razor was dull." If your tool is no good, then you are in trouble.

You must have vision and insight . . . no vision and the people perish. You have to have a dream! It was interesting that Daniel Burnham had something to do with your original organization and he saved the national capital when it was threatened by the blight of slum areas in the vicinity of the government buildings. Daniel Burnham used to operate from the Chicago loop high in a building overlooking the city and on his drawing board he worked out a dream city for Chicago. All of his dreams have not materialized but enough

of them have and Chicago is richer because of those areas that he developed, like lungs that breathe heart into a city.

Make no small plans; make big plans. I am high in hope and thought remembering that a logical program once projected will never die but long after we are dead they will be living things. Maybe somebody will nip your dream in the budget, no doubt a familiar thing to you all. When you finally get the building up, it isn't what you had in mind at all. . . . You have to have a dream. It takes long dreams to overcome short-range frustrations.

The only time I saw Babe Ruth was at a news conference he once held. He said that people call him the Home Run King but nobody ever asked him how many times he fanned out. "I have had 851 home runs and have fanned out 3,339 times," he said. When he was asked how he became the Home Run King, he said he kept coming up to bat and kept swinging.

The law of averages for the man who persists will bring a measure of success. You must always keep that in mind. You are ultimately builders . . . that is the first great thing about the Glory Road. So many people are destroyers. . . . A lot of people don't build. I was a boy from an Indiana farm and I was crude and awkward on my first assignment in a church. The people criticized me and because I was a little thin-skinned, it hurt. I took it for a long time but one Sunday I took my text, not from the Bible, but from *Reader's Digest*. . . . "If you must use a hammer, build something!" Work with the construction gang and not with the wrecking crew. Any fool can criticize and many do.

The Glory Road is the Building Road. . . . The Glory Road of a builder of America in the future. It has to be a positive road, it has to be built on character. No possible re-arrangement of bad eggs will make a good omelette.

This is a smart man's world. Here the future is unlimited for design and beauty. The smarter you are the better off you will be. This is a good man's world too. We need emotional balance and character control. Before Eisenhower was president or even thought about it, he said to me, "America is great because she is good, when she ceases to be good she ceases to be great and she is great because she believes in God." It is as important for you to have quality as it is for you to have knowledge.

In Biblical times a great builder who had made his first million was going on a long trip. To his foreman he said, "Here are the blueprints for a fine house I want built. Have it ready when I return." After he had left, the foreman said to himself that here was a good chance for him to cut corners, use some sleazy materials, save time so that he could make extra money and still build a house that looked well. When the boss returned and saw the house, he was delighted with it. He looked it over and it appeared to be the house he had designed. It looked magnificent. He came back to the foreman and handed him the keys. "This is my gift to you, you have built your own house."

A part of the Builder's Glory Road is the pride of the architects, like the great architect of St. Paul's of Lon-

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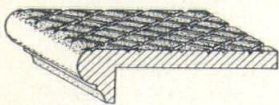


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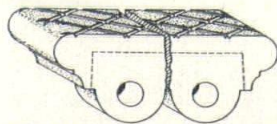


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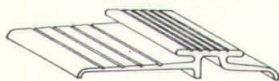
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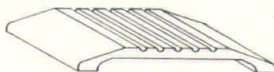
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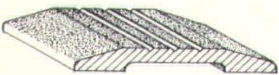


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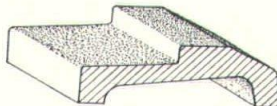


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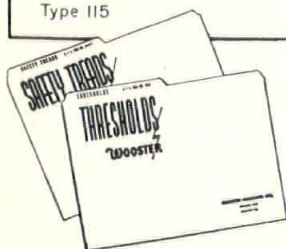
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don. The cathedral missed the bombing. Twelve churches were bombed out around St. Paul's cathedral but this great church stood. Years ago an architect used to walk to the hills nearby and gaze down on the cathedral with pride. What a wonderful thing it is to build something that is a monument to beauty.

The Builder's Glory Road is not only a road of creativity through building and a road of quality through character, it is a road of concern through love and respect. It has something to do with the picture in your heart and this is what your world needs. There should be three more R's . . . Reason, Resource and Responsibility.

George Eliot has a musician say, "While God gives them skill, I give them instruments to play on. God cannot make a Stradivarius violin without Antonio Stradivarius." You do it with lines, I do it with words, an artist with a brush. It is not important what we do, it is supremely important that we do it.

The greatest liberty taken with nature was the Panama Canal, the second greatest is Mount Rushmore. On certain clear days you can see the magnificent faces of the presidents from fifty miles away. Borglund has been credited with the creation of this monument. He didn't do it alone, Borglund simply put the plan in a blueprint. When it was being created, he stood on a hill a mile away with a telephone at his side. He would telephone to these miners who were carving the faces and tell them how to cut and where to carve the features of these immortals. That is the way you get these miracles. Your master, miner, dreamer, doer, big man, little man . . . when they join hands you have got a miracle. You will make for America an unlimited future!

LEE OF ANCHOR BLOCK DIES

Alf L. Lee, president of Anchor Block Co., St. Paul, died in Rochester recently following a long illness. He



Mr. Lee

was the founder of the block firm and had guided its growth until illness precluded his further active participation. He is survived by his wife, Lorraine, six daughters and four sons.

BIRD'S IDEA IS MODERN

A feathered Frank Lloyd Wright has appeared on the scene in Fort Wayne, Indiana, who seems to have designed the perfect home, for the birds, that is. This home will never wear out, is built with a material that can easily be kept clean, is unusually strong and will not corrode or rot away. What is this? The bird gathered tiny strands of stainless steel wire to build a nest. The stainless was supplied from piles at Fort Wayne Metals, Inc., which makes unusually fine filters for automotive and aircraft uses and special high pressure cables, and the bird wove it into its nest.

MEMORANDUM FOR THIS DAY

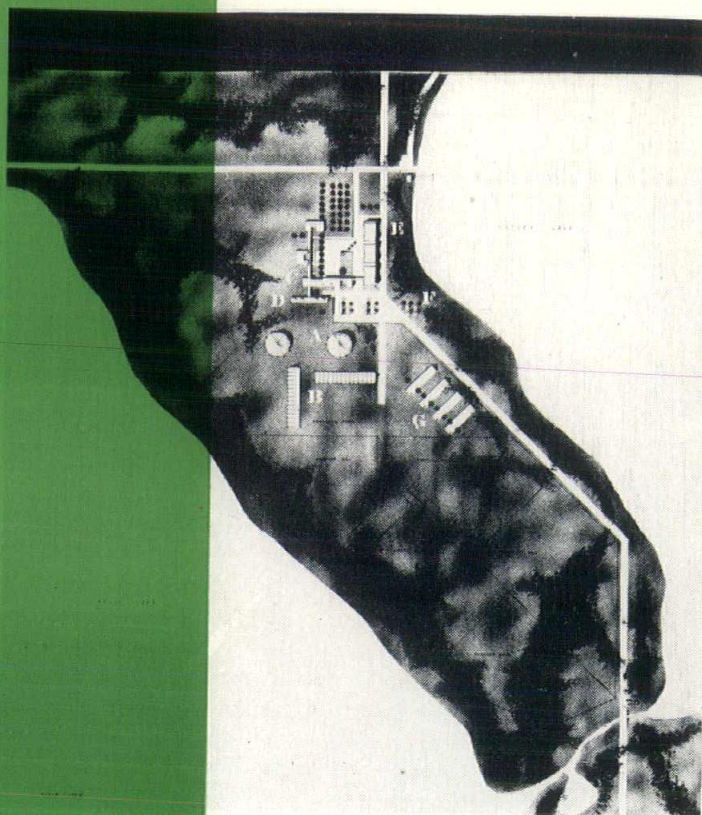
Life's surge heaves IDEAS, which to become actual
need an organic ORDER. To facilitate production
we must develop a TOOL, and skilled workers to
bring this tool into USE. The result will make
available a *continuing* OBJECTIVE — a reaching toward
yet unrealized POTENTIALS-IN-ACTION. Thus will
appear a complete PROCESS, crystallizing into forms
generally known as NATURE, and manifesting life.

Possessing this new form in NATURE, which must be here
too briefly defined as LIFE-WHOLE, it is possible,
by means of all the TOOLS of practical thinking,
to gain an improved METHOD. Thus we may benefit
in the use of another NEW IDEA — and the life of man,
as an ever growing PROCESS, enter another cycle.

Pasadena, California
1957

William Gray Purcell

A DAIRY FARM FOR RICE COUNTY MINNESOTA



Details from above will be found on following pages.

Program:

Outline

Introduction

Section I: Historical Resumé of Dairying

Section II: New Methods and Processes Relating to the Problem

A. Feeding

B. Building Types

C. Land Use

Section III: The Philosophy and Requirements of the Problem

A. Site

1. Description

2. Land Conservation

a. classification and use

3. Crop Rotation Plan

B. Livestock and Machinery

C. Building Area Requirements

D. Special Topics (Mechanical)

1. Insulation

2. Ventilation

3. Sewage Disposal

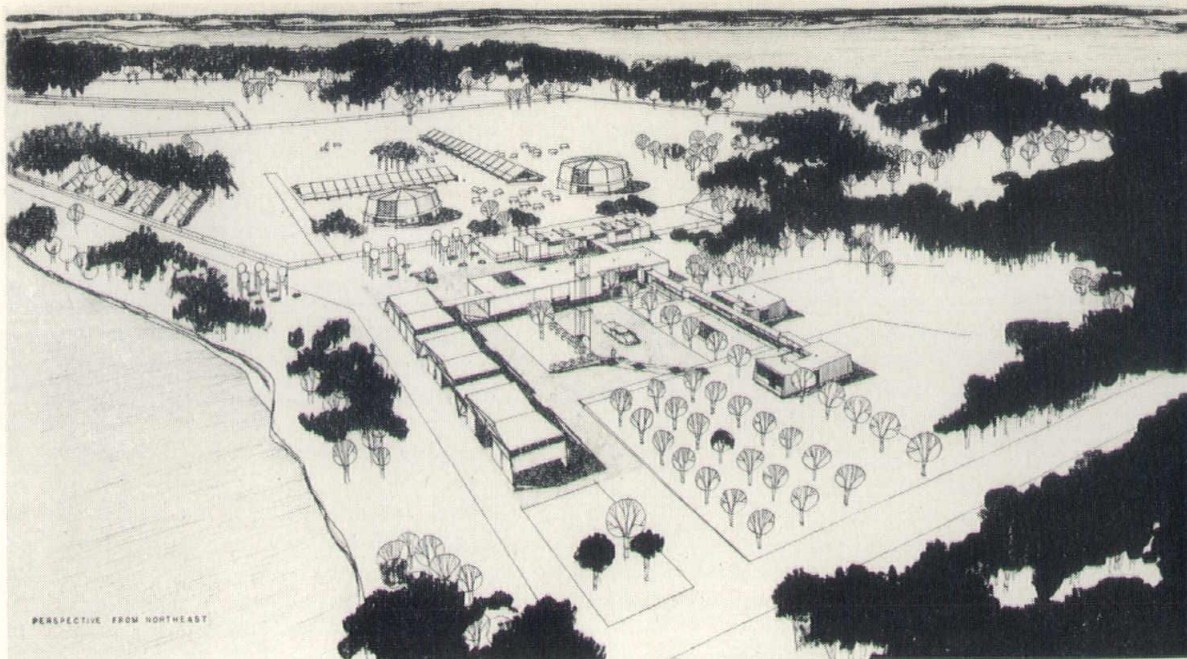
4. Water Supply

E. Functional Arrangements and Basic Considerations

INTRODUCTION

The importance of dairy products is realized by everyone, but it is questionable whether all people have a full realization of the impact of the environment on the production of the product. Many of us have seen the average farm along any state highway or back-country road. Ordinarily these farms have a very unattractive appearance due to their run-down condition—buildings that are dilapidated, machinery lying around, weed-filled ditches on either side of the entrance road, mud and manure in the farm and barnyards. These are only a few of the objectionable sights that are immediately obvious.

**An undergraduate thesis submitted by
Dennis W. Grebner to the School of Archi-
tecture at the University of Minnesota.**



General View

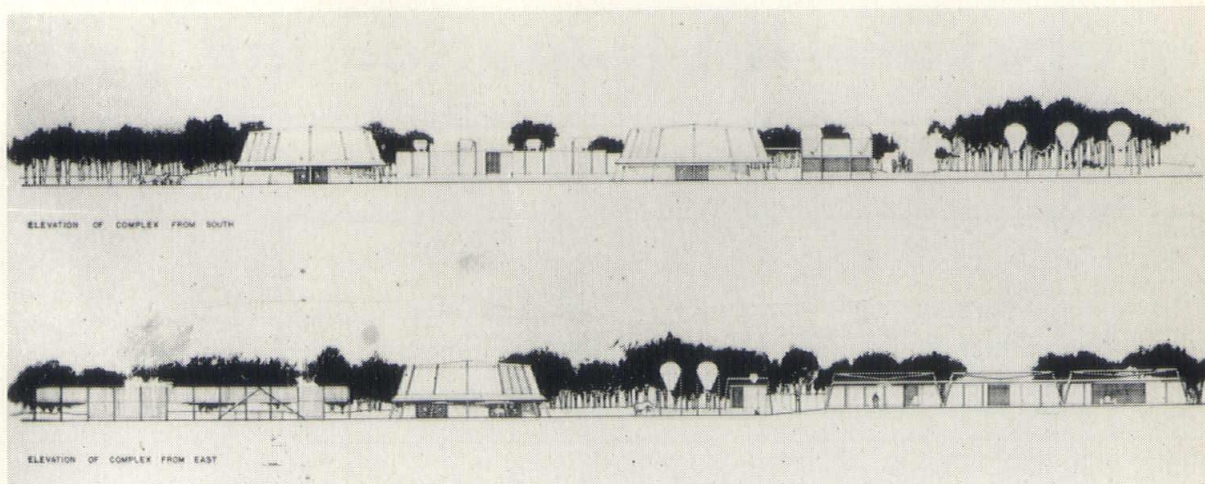
If you were to venture further in an investigation of the buildings and surrounding yard you would discover only chaos in whichever direction you might turn. In general, the appearance and functional layout of the average farm is not indicative of a well-managed business. To a more trained eye other critical objections might raise themselves, e.g., poor land use, improper field balance, land erosion, lack of game conservation, etc.

Another criticism that seems apparent at this time is the inane diversity of production types on most farms in this area. Why is it that farmers who supposedly specialize in dairy farming (the category into which most farms in this particular area fall), raise pigs, geese, chickens, sheep and other assorted comparatively low income producing types? It seems that all they accomplish is to supplement the dairy man's income (an extremely costly income supplement, e.g. added labor, transportation costs, etc.). These are, no matter how you may argue them, evidences of poor management.

The criticisms I have pointed out are some of the major points I intend to investigate and remedy in this thesis. It has been proved by many practicing farmers and advisory specialists that the dairy farmers in the North Central Region can demand a high marketing volume for their dairy products the year round. In days past this may not have been the case but with the advent of refrigeration, splendid transportation service and processing methods (such as dry milk production), this condition no longer is so.

SECTION I: A HISTORICAL RESUMÉ DAIRYING

Man has always been dependent on the soil and its products for sustenance but it has only been for a few thousand years that he has had domesticated animals to provide him with food, drink and clothing. One early civilization realized the great advantage of being able to control animals of this sort and others for man's own benefit. Initially his great problem was



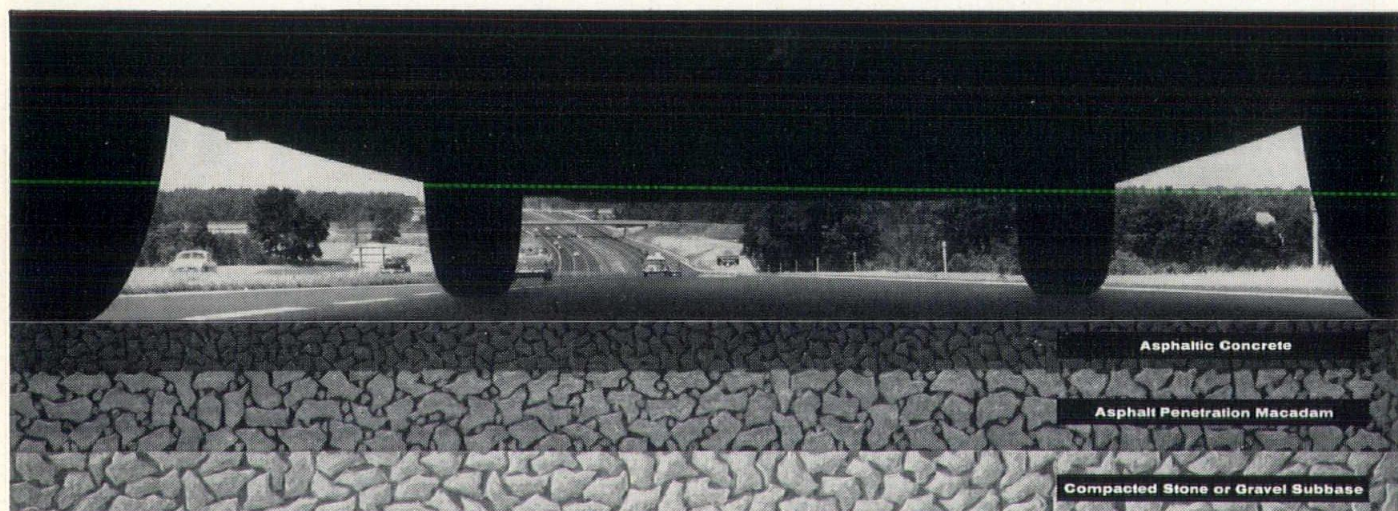
Elevations

to capture them; then he was faced with taming them and getting them to reproduce and produce in captivity. At this time no consideration was given to breeding of new lines, proper feeding and care for higher production and rightly so, for this primitive man was faced with more basic problems than this. He was primarily concerned with the taming of these living food producing machines. It was not until the early 19th century that any real consideration and improvements along these lines began to take place. Up until this time man was pretty much content to pasture his cows and other livestock and give them no other serious attention. Hence the production of these animals was low and quality was poor. Because of this very few people living in metropolitan areas during this period were able to have dairy products and the incidence of disease contracted from their use was also quite high. There were many other factors responsible for this low rate of consumption, other than the fact that production was low. Just one of the other important factors was that of poor transportation.

As we mentioned before during the 19th century in France and the Scandinavian countries many people

were attempting to influence dairy production by scientific research. At this time also some few people were working on methods of controlling the disease producing factors inherent in dairy products. Other people were investigating the value of dairy products in the human diet. Many of these investigations were successful, others not at all. With the realization of how beneficial these products could be, if of good quality, these other phases of research were stepped up.

Since that time dairy farming and processing have risen from the stage of a mere hit-or-miss proposition. As an industry it has achieved great and significant proportions. It has reached the stature of an art and science. During the past 25 years the dairy farmer has learned through different organizations how to breed, feed, and care for his herd. It is some of these improvements and developments we shall discuss in the next section. The government realizes how important this industry is to the welfare of the people, has done much to finance research and has even gone as far as subsidizing it to keep it a healthy industry.



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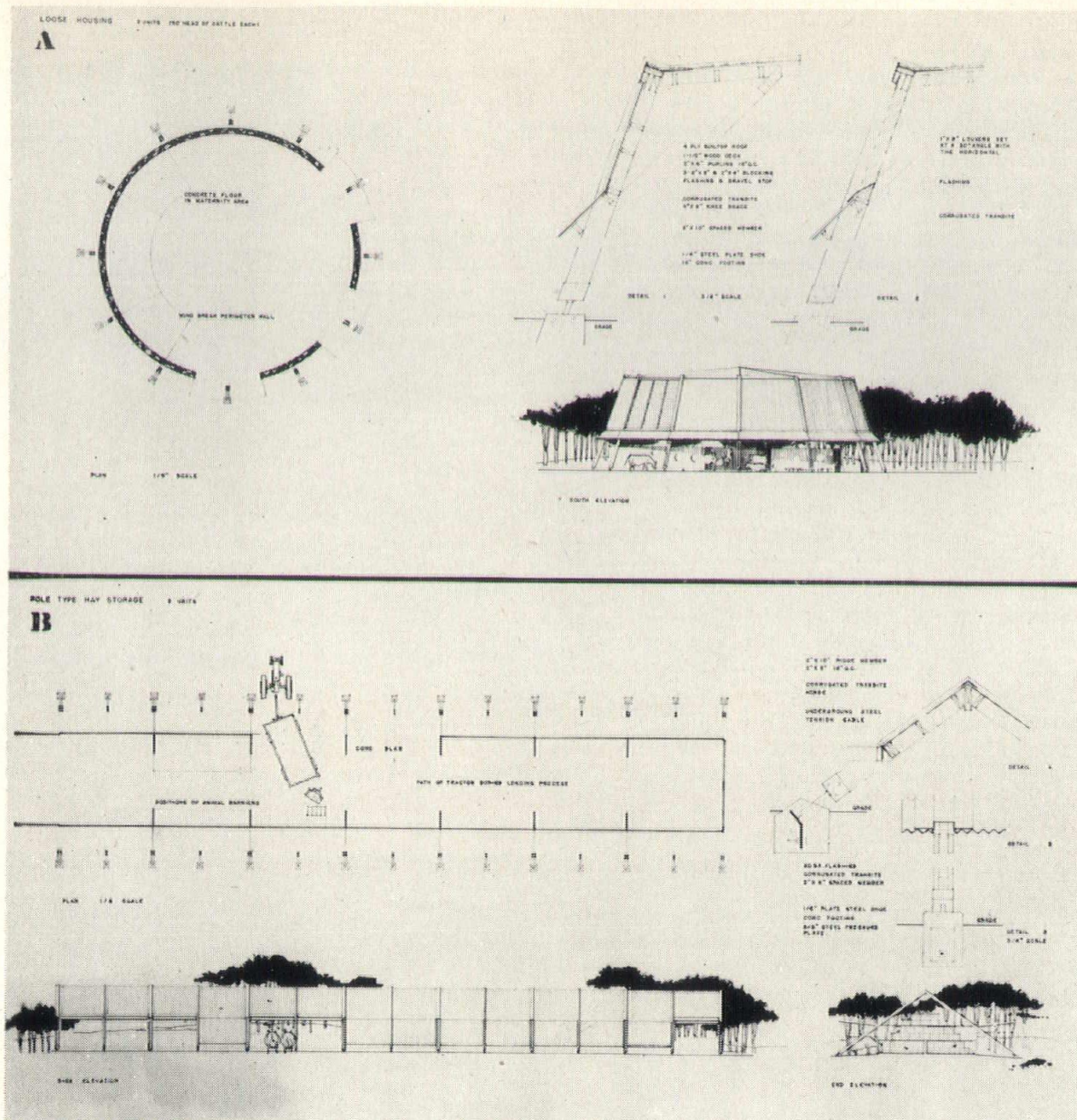
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See page 56 for positions

SECTION II—NEW METHODS AND PROCESSES RELATING TO THE PROBLEM

The present-day dairy farmer has at his disposal many information agencies, such as the U. S. Agriculture Service and Soil Conservation Service, beside many private organizations, state universities, etc. From this information and these research agencies many new and revolutionary methods of procedure and inventions have been dispersed. Some few of these new methods that will have direct influence on the problem solution:

A. Feeding:—low cost waste feeds with the aid of urea (a high protein supplement), elimination of pasture self-feeding, bone meals, soy bean concentrate and other dietary supplements, fresh grass silage and chopped hay, feed milk cows in proportion to production and grain fed only as supplement to roughage.

B. Building Types, an explanation of some . . . loose housing: This was adopted in an effort to in-

crease production and reduce labor time of the farmer. Both of these theories have proved correct beside the fact that there is less damage to cows' udders and less initial capital investment in building the loose housing type born. The ventilating of this type of structure will be discussed in Section III, D . . . Milk parlor: The premise behind this was that by isolating the area where milking was to be done more healthful and clean conditions might be maintained. It has, beside this, achieved other beneficial results such as decreasing milking time and increasing control over supplementary feeding. . . . Pole type hay feeding shed: Keeps hay dry, fresh and clean, allows animals to self-feed and saves operator much time thereby. This is usually separated from loose housing for matters of cleanliness and efficiency. . . . Self-feeding silage bunkers: The advantage on its economy; labor saving aspect and ease of maintenance. . . . Note: Other more or less standard building types

will be discussed in area requirements section.

C. Landuse: Crop Rotation: This is done in an attempt to increase crop production, very successful in conserving land resources such as nitrogen. Soil Conservation: Such devices as contour plowing, strip planting, devoting certain areas to trees and complete elimination of row crops in other areas.

Game Conservation: Allow strip areas and certain low areas to remain wild so as to foster breeding of wild game such as pheasants, ducks, rabbits, etc. Note: This particular topic will be discussed in more specific detail in Section III A, The Site.

SECTION III—THE PHILOSOPHY AND REQUIREMENTS OF THE PROBLEM

My intention is to create a specialized, highly functional dairy farm without losing sight of the fact that anything that relates to man and his environment must be subdued to the scale of man and that environment and must contain a certain amount of warmth and vitality if man is to prosper, be happy and gain something from it. I believe the land acreage should be studied and used to its fullest extent for the purposes for which it is best suited. The building group should be well related to the crop areas, topography, as well as to access routes and in a broader sense to such other social necessities as churches, schools, markets, etc. The matter of power and water sources in this locality are not too serious; both are readily accessible.

The prospective client is assumed to be a retired

game and wild life department employe and is extremely interested in the preservation of game and natural resources in general. Included in his family are his wife, a son who is a graduate of the university agricultural school (with a B.S. in dairying), his wife and one child, a boy.

A. Site

1. Description: Located in Wells Township of Rice County in the southeastern area of Minnesota approximately 60 miles due south of Minneapolis, it is between the towns of Montgomery and Faribault just off State Highway #21, Section Lot 8, R.F.D. #4, bordering the northwest and south shores of Kelly Lake (area 35 acres). Site contains 320 acres.

2. Land Conservation: Land classification and use . . . See accompanying soil type or soil capability map (*not reproduced here, editor*): Basic classifications are: Class II, good crop land but has some problems which are easily overcome; Class III, also good crop land but has quite a few problems that require good conservation; Class IV, suited for occasional cropping but best suited for hay and meadow; Class V, suited for grass and trees and wildlife.

Soil Classification: Replaced Soils—Lester (4), Webster (28-51), Hayden (9-10); wet soils—Dundas (27), Glencoe (32), Marsh (38); deep (35) and shallow peat (36). 8—Hayden fine sandy loam. . . 3-4—moderately dark colored, well drained loam or silt loam upland soils—Lester. . . 9-10—light colored, well

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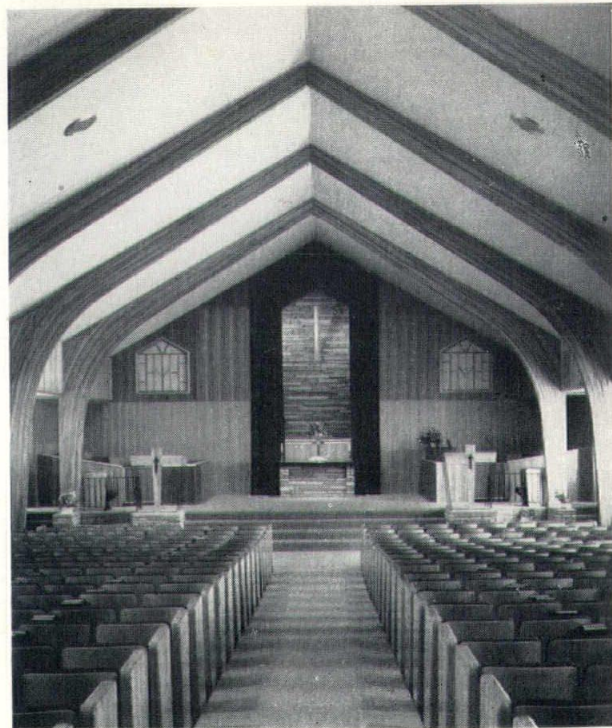
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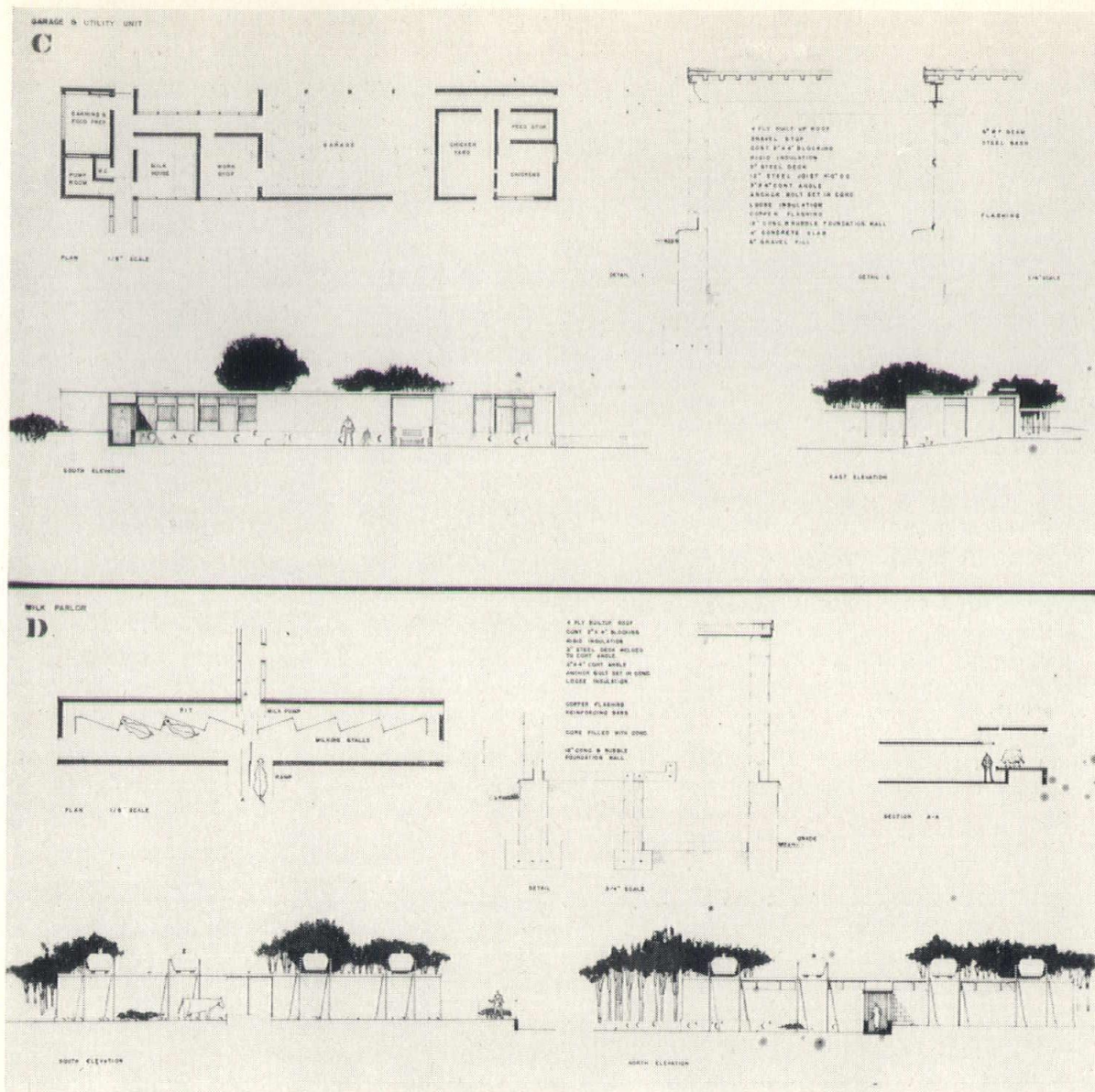
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drained loam or silt loam upland soils—Hayden. . . . 8—light colored, well drained sandy soils with fairly heavy silt soil. . . . 27—light colored, slowly drained silt loam with heavy sticky sub-soil—Dundas silt loam. . . . 37—dark colored, deep, poorly drained heavy soils—Glencoe silty clay loam. . . . 38—Marsh . . . 35—Deep Peat . . . 36—Shallow Peat.

Landuse: Stream bottom land overflows occasionally. It is fairly well drained, easy to work and produces good crops. How to use when used as cropland: (1) no special conservation practices are needed to handle this land, (2) keep land in hay at least one year out of four, (3) where soil has several inches of sand, coverage breaking plow should be used. When used for wildlife land keep livestock away from stream banks.

The gently sloping land is deep, well drained and is productive and easy to work when properly managed. How to use for cropland: (1) land should be in sod one-third of the time. Tillage operations should be on the contour. (2) long slopes should be either strip-cropped or terraced; if terracing is used, the field should be in hay one year out of four and if strip-cropped the, alternate strips should be of sod. For

See page 56 for positions

wild life establish and maintain headlands of grasses and legumes. Delay mowing or grazing till after grain harvest.

The low or ponded land is dark colored, wet and heavy. It is productive if well drained and properly managed. How to use for cropland: (1) drainage by surface or open ditches and tile are needed to produce high yields, (2) after drainage, land should be kept in grass—legume sod at least one-fourth of the time, (3) to keep drainage system working: use deep rooted legumes in rotation, plow down a good growth of grasses and legumes and return all crop residues and manure to the land, (4) avoid working land when wet, (5) starter fertilizer containing nitrogen is important for crops as this soil warms up slowly in the spring and (6) where alkali occurs, heavy applications of potash, extra amounts of organic matter and proper drainage lessen the undesirable effects . . . for permanent pasture do not pasture till ground is firm. For wild life, if marshy, will make excellent

wild life land. Protect from fire and grazing. Do not drain.

The land which is deep, well drained and productive when well managed, because of its slope, some conservation practice should be used to prevent erosion and help maintain productivity. How to use for cropland: (1) if used in strip crop, land should be kept in hay at least half the time and strips of hay should alternate with row or grain crop, (2) if terraced, it should be kept in hay at least two years out of five and (3) on short or irregular slopes where strip-cropping or terraces cannot be used, it should be formed across the slope and land kept in hay or pasture three years out of five. For wild life establish and maintain headlands of grass and legumes. Mowing or grazing should be delayed till after harvest.

Some land is a wet, moderately heavy soil, underlaid with sand and with a high water table. How to use for cropland: (1) drainage is needed to insure production, (2) tile drainage is recommended and (3) when drained, use a three-year rotation with one year of hay, example: row crop, grain, hay. For wild life, seed drainage ditch banks to grasses and legumes. Delay grazing or mowing until after grain harvest.

These are marshland areas which are under water a great deal of the time. Use for wildlife (1) excellent wildlife land, (2) protect from fire and grazing and do not drain, (3) leave grass nesting strips on perime-

ter and (4) level ditches or water level controls to improve conditions for muskrats and other wildlife.

Crop rotation plan: It is assumed that this farm will be placed on a 5-year rotation program (*details deleted, editor*).

B. Livestock and Machinery

Operation . . .

Livestock: 100 chickens tended by owner's wife, 100 dairy cows tended by farmer and 30 calves tended by eldest son. The Guernsey registered herd has an average 350# butterfat/year of grade "A" milk producers.

Machinery: The type and quantity of machinery needed to operate this farm are determined by the total area of crops and the types of crops grown. The crop types are listed below with the respective implements used in the production process. In some cases more than one machine of a particular type is listed. * Indicates machines used in other operations also. A tractor furnishes power for all operations.

Corn planting: *plow, *disk, *spring tooth harrow, *spiked tooth harrow, *corn planter (2 row) and *cultivator; harvesting: cornpicker, *wagons and *elevator (power by electric motor).

Oats planting: *disk, *spiked-tooth harrow, *spring-tooth harrow and *seeder (fan type); harvesting:

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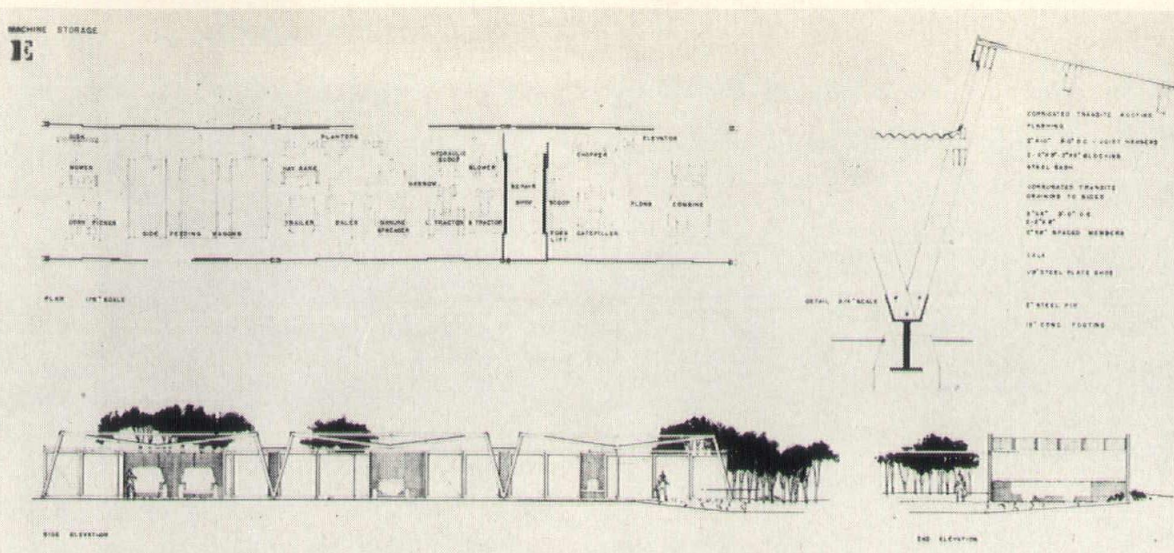
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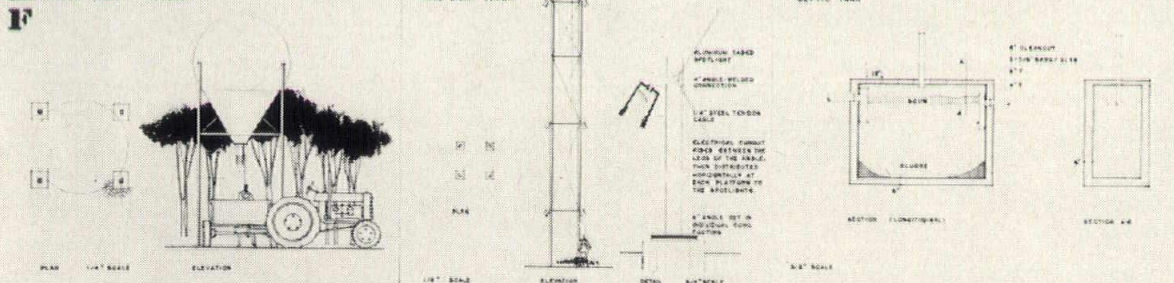
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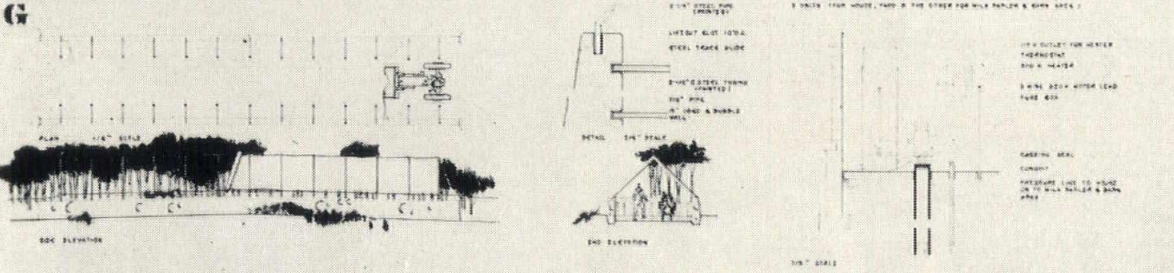
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See page 56 for positions

*combine, *wagons and blower.

Hay planting: *disk, *spring-tooth harrow, *spiked-tooth harrow and *seeder; harvesting: *mower, *side delivery, *baler, *wagon and *chopper.

Soybeans planting: *plow, *planter, *cultivator, *combine and *wagon.

Miscellaneous: manure spreader, tractors, pickups and small bulldozer.

Summary of Machinery: 1 disk, 1 spring-tooth harrow, 1 spiked-tooth harrow, 1 corn planter (serves as soybean planter), 2 plows (2 bottom type), 2 cultivators (1 per tractor), 1 corn picker (mounted type), 1 seeder (serves for oats and hay), 1 combine, 2 mowers (mounted types), 1 hay chopper, 1 side delivery rake, 1 hay baler, 2 manure spreaders, 1 hydraulic manure loader (mounted on tractor), 1 grader attachment, 4 wagons (rubber tired) 2 side feeding, 2 hay racks (rubber tired), 1 grain elevator, 2 tractors, 2 trucks, 1/4 ton and 1 3/4 ton, and 1 bulldozer.

NOVEMBER-DECEMBER, 1957

C. Building Area Requirements

Loose Housing: Units @ 2500 sq. ft., each to house 100 dairy cows; allows 50 sq. ft./cow—optimum, according to Robert Solstrom, former president of the State Dairy Herd Improvement Association. Ventilated by the absence of walls. Heated by the cattle and composition of straw and manure. Protected on north by wall.

Machinery Storage:

fork lift attachment 3 x 5 — 15 sq. ft.

2 disk 2 @ 6 x 12 — 144 sq. ft.

1 spring tooth harrow — 90 sq. ft.

1 spiked tooth harrow — 90 sq. ft.

1 corn planter: serves as soybean planter—2 row @ 9 x 8 — 72 sq. ft.

- 4 plows (2 bottom type) 4 @ $12\frac{1}{2} \times 8\frac{1}{2}$ — 144 sq. ft.
- 2 cultivators (1/tractor) (2) 2 row @ 8×8 — 72 sq. ft.
- 1 corn picker (mounted type) — 174 sq. ft.
- 2 seeder (serves for oats and hay) 2 (4×4) — 32 sq. ft.
- 2 mowers (mounted types) @ $7\frac{1}{2} \times 5$ — 37 sq. ft.
- 1 hay chopper — 70 sq. ft.
- 1 side delivery rake @ 13×11 — 143 sq. ft.
- 1 hay baler @ 17×13 — 221 sq. ft.
- 1 manure spreader 2 @ $15\frac{1}{2} \times 6$ — 186 sq. ft.
- 1 hydraulic manure loader (mounted on tractor) both $5\frac{1}{2} \times 16$ — 88 sq. ft.
- 1 grader attachment—snow removal 2×6 — 12 sq. ft.
- 3 wagons (rubber tired) side feeding — 360 sq. ft.
- 2 hay racks (rubber tired) — 200 sq. ft.
- 1 grain elevator — 80 sq. ft.
- 2 tractors @ $11\frac{1}{2} \times 7\frac{1}{2}$ — 172 sq. ft.
- 1 bulldozer — 160 sq. ft.
- 1 combine
- 1 blower

Machine Repair: located near machinery, should be insulated for year-around working comfort, well lighted, should be located near fuel storage of oil, grease, gas, fuel tank 260-300 gal. . . . 18×26 — 208 sq. ft.

Corn Storage: 5 storage units each of 1,400 bu.

Grain Storage: 8 storage units each of 1,000 bu. Small grain—1.25 cu. ft./bu. Should be stored in steel tank raised off the ground to protect it against moisture and rodents. Individual tanks of 1,000 bu. each.

Chicken House: 2 sq. ft./bird (100) (2) — 200 sq. ft. Laying nests, roosts and small exercise yard. (10×20) — 200 sq. ft. Bag feed storage should be provided adjacent to chicken house . . . 50 sq. ft.

Garage: trucks $\frac{1}{4}$ -ton, 160 sq. ft.; $1\frac{3}{4}$ -ton, 300 sq. ft.; 2 autos, 192 sq. ft.; auto repair and workshop, 150 sq. ft. . . . 1,000 sq. ft.

Hay Storage: In pole type, self-feeding storage sheds. Two will be necessary at 5,000 sq. ft. Total area each — 10,000 sq. ft.

Milk House: Bulk tank, large double sink, pump, table . . . 150 sq. ft.

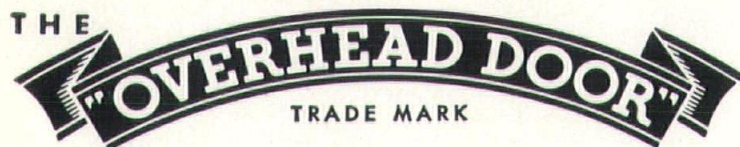
Pump House: motors, pump, etc., wood structure with concrete floor . . . 80 sq. ft.

Milk Parlor: Concrete floored wood structure . . . 1,120 sq. ft.

Silage Bunkers: concrete with dirt floor, open on both ends, covering with metal pipe and canvas . . . 25×100 — 2,500 sq. ft.

House: Main house — 1,500 sq. ft., 2 bedrooms. Son's house — 2,000 sq. ft., 3 bedrooms.

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D. Special Facilities

Mechanical

1. Insulation . . . Rigid insulation which can be used to limited extent structurally as well as for insulation will be used in all those farm buildings requiring insulation. The reasons are its durable quality and ease of maintenance as well as installation. Blanket will be used in the house, however.

2. Ventilation . . . Following the recommended average insulating values for animal shelters, the minimum allowable volume of air change under restricted ventilation for each class of animals is as follows based on humidity of 75% and inside temperature of 45° F. when it is —15° outside: cow—20 cu. ft./min.; hen—¼ cu. ft./min., and calf—15 cu. ft./min. When outside temperature rises to 30° F. it will be difficult to maintain a constant inside temperature of 45° F. because the required air movement would cause drafts. It is possible, however, to hold a temperature difference of 25° and permit the inside temperature to rise to 55° F. under such mild conditions. When the temperature rises above freezing, the air movement for each animal class should be as follows: cow—70 cu. ft./min., hen—1 cu. ft./min. and calf—50 cu. ft./min. It will be noted that all these ventilation requirements are met by the use of loose housing if approximately ½ of the wall surface is left open to the weather.^{1*}

3. Sewage Disposal: size, a tank of 850 gal. capacity is the minimum size recommended, regardless of the family size. The septic tank should hold all inflow for a period long enough to allow bacterial action to liquefy the sewage. If bacterial action is complete, only clear liquid will flow through the outlet. The detailing and dimensions of this tank will be shown on the drawings detail section. Location: Providing topography is even the tank should not be located more than 25 feet from the house. Type: This shall be a constructed-in-place tank. The disposal field will be a tile drainage field.

4. Water Supply System: The needs are determined from tables of average consumption for each type of user.

each member of family	40 gals/day
each dairy cow	25 gals/day
100 chickens	5 gals/day
calf	10 gals/day
lawn sprinkler	250-300 gals/day
¾" hose	200 gals/day
Aggregate	
5 persons @ 40 gals/day	200 gals/day

1. "Insulation and Ventilation," University of Minnesota Bulletin #253.

*The Bureau of Farm Buildings, Wisconsin Univ., Madison, Wisconsin.

100 dairy cattle @ 25 gals/day	2500 gals/day
30 calves @ 10	300 gals/day
100 chickens	5 gals/day

3005 gals/day

+ 500 gal (advisable tol.)


Well Size: 2" well providing 18 gals/min. total—3,505 gals/day—will be necessary to supply the daily needs. Well type, location and pump: Shall be a drilled well with casing located at least 100 feet from any contaminating source. The pump shall be a deep well pump because existing water table calls for a lift exceeding 22 feet. Otherwise water would be drawn from lake adjacent to farm.

Pump House: Pump, motors, and controls shall be totally inclosed in a pump house. Pump house should be insulated to prevent freezing. Water pipes should be 6-9 feet below grade in Minnesota, to prevent freezing.


E. Functional Arrangements and Other Basic Considerations

1. Building Center Arrangement: Orientation: livestock barns or sheds, long axis north and south and sheds open to east or south (winter protection). South and southwest summer breezes should reach the farm house relatively unobstructed. Barns should be located downwind from farm house. Wind breaks,

(Continued on Page 82)



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Area Designers Attend Fourth Annual Bituminous Conference at "U"

Results of past experience and research and an insight into the studies being made now in creating the best roadways for an America which seems to be using more and more wheels were wrapped up into a one-day presentation at the Fourth Annual Bituminous Conference at the University of Minnesota on November 20. Co-operating in the meetings in the Center for Continuation Study were the Minnesota Bituminous Pavement Association and the Asphalt Institute. Details of the program were handled by Sheldon Beanblossom, executive vice-president of the Minnesota group, and members of the university staff.

"Asphalt Materials, Manufacturing, Types and Uses," was the subject of L. C. Krehma of Socony-Mobil, Kansas City, while Miles Kersten, U of M professor of civil engineering, and T. W. Thomas, U of M associate professor, presented "Selection of Base Courses and Bituminous Surfaces."

After a luncheon the afternoon meeting presented "The AASHO Road Test" by Walter B. McKendrick, Jr., project director for this research project, "Analysis of Types and Causes of Asphalt Paving Failures" by B. A. Vallerga of the Asphalt Institute and "Seal-coating" by J. P. Kearby of the Kansas Asphalt Association.

In presenting work to be done under the AASHO road test project, Mr. McKendrick summarized the growth of traffic since the last war and pointed out:

"In this era of big ideas, big plans and big accomplishments we have built and are building lasting things—things that will be monuments to this age, outstripping by far the fabled Seven Wonders of the World. In the transportation industry two of these projects stand out—the St. Lawrence Seaway and the National System of Interstate and Defense Highways. This latter program is getting well underway and already its impact is being felt from coast to coast and border to border. As this program progresses its effects will reach every village, town and city—yes, even into every factory, office and home. . . .

"A giant stride forward in highway research is under way today at Ottawa, Illinois, where the facilities for the road test are being constructed. This 22-million dollar project, sponsored by the American Association of State Highway Officials, will enter its testing phase in the late summer of 1958. Two years of controlled truck traffic on its test pavements will provide millions



Our pictures above show (top, l-r) Marvin Gollinger, president of Minnesota Bituminous Pavement Association, Duluth; A. O. Torgerson, assistant commissioner, Minnesota Highway Department; Frank Marzitelli, Minnesota Highway Department; and Wilbur Lovejoy, engineer, South Dakota Highway Department, Pierre, S. D. . . . Lower picture shows C. K. Preus, Minnesota Highway Department engineer A. C. Benkelman, research engineer, AASHO Road Test; and M. K. Kersten, University of Minnesota School of Engineering.

of pieces of data which, when reduced and analyzed, should help answer many long-standing questions of the highway industry."

Need for the project was pointed out as the growth of the traffic load since the war from 38,000,000 auto units in 1947 to 63,000,000 in 1955 and an estimated 66,000,000 today. In 15 years the load is expected to reach 100,000,000.

In considering the base construction of roadways, Mr. Kersten pointed out there are two kinds of pavements, "rigid," in which there is a thickness of Portland cement concrete, and "flexible," which includes all others. Selection of the various kinds of base courses and surfaces depends on the kind and amount of traffic which will use the roadway. In a housing development the pavement need not be as heavy as for a highway used by heavily loaded trucks. However, durability, original cost, upkeep and similar factors all enter into the problem where adjoining residential property must carry the cost.

Traffic items which enter the reckoning of the engineer and planner include the count or daily volume of traffic and the magnitude of loads, Mr. Kersten said. Where the heavy-duty units may be occasional—a school

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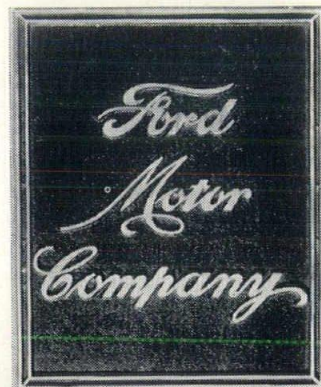
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bus or delivery truck—and the light passenger vehicle traffic be the major user it takes experienced consideration to allow the proper value for the occasional extra-heavy load. Present experience and research have given the roadway designers a great deal of data on which to found the correct answers, he reported.

Among the site factors which affect the choice of pavement type the soil is an important one and proper soil studies should always precede final selection. "Climate, one or those terms of widespread meaning," also must be reckoned with, he said, for the attacks of heavy water flow-off, ice formation, frost heaving and the like can make or break a roadway. Thickness of the base courses, amounts, proportions and kinds of materials and other technical considerations are set up on the basis of the preceding.

"A more enlightened public," Mr. Kersten concluded, "conscious of the fact that there are various classes of flexible pavements, that some are temporary or part of a stage construction but that they can be engineered to use available funds and meet eventual needs, would be most welcome to the engineers engaged in this problem."

"One of the characteristics of bituminous pavements," Mr. Thomas told his listeners, "is the great variety of types from which we can choose. This is in itself a marked advantage for it permits the selection of the kind of pavement most suited to the particular conditions of traffic, environment and available materials."

In considering the special phase of pavements for light residential traffic, he said, "our chief concern is a surface which will resist the elements." He then went on to show the positive and negative factors of the several kinds of surfacing available for this kind of roadway, from the thin and low cost liquid bituminous treatment which must be renewed each year and whose best factor is that it is dustfree to the high cost hot plant mix used for the best applications. Pointing up one of the types Mr. Thomas reviewed, he said:

"The advantages of bituminous macadam are (1) the inherent very high stability of the interlocked stone surface (displacement being virtually impossible) and

1—Leo Ebert of Lakehead Testing Laboratory, Duluth; G. H. Holmquist of Minnesota Highway Dep't; Norman Henning of Twin City Testing and Engineering Co., St. Paul; and Stanley Watkins of Bituminous Surface Treating Co., St. Paul. . . . 2—L. P. Pederson, Hennepin County engineer; W. L. Hindermann, division engineer for the Asphalt Institute; and Egil Welfald, of Orr Engineering Co., Minneapolis. . . . 3—I. J. Anderson of Iowa Highway Dep't, Sioux City; C. P. Hanson of Public Works Dep't, St. Paul; and A. W. Tews, St. Paul city engineer. . . .

4—George Passe of Bituminous Surface Treating, Minneapolis, Norm Rosten and Richard Gasser of Pope County Highway Dep't, Glenwood. . . . 5—Fred Bonnifield of Lake Asphalt & Petroleum, St. Paul; Sidney Smith, Hopkins city engineer; and J. J. Strojan, ass't Hopkins city engineer. . . . 6—James Klein, Winona city engineer; R. E. Ion; Albert Griffith, Duluth city engineer; and Evan Davies of H. J. Dunn Blacktop Surfacing, Winona.

(2) the almost total absence of surface cracking." In similar manner he detailed each classification.

Architects attended the meetings for in many projects they have found knowledge of roadway problems has helped create a more satisfactory solution to site and individual building planning.

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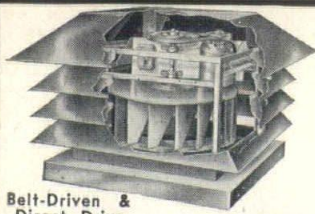
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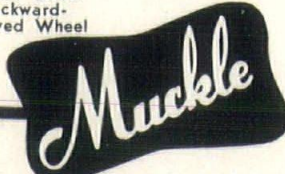
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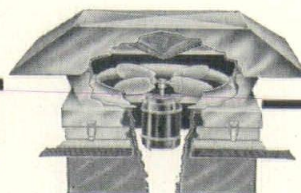
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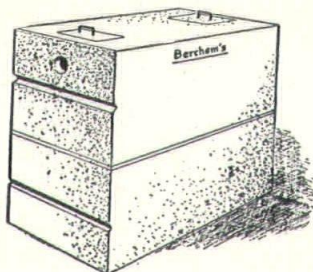
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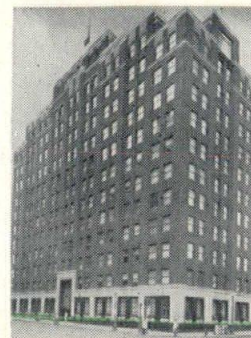


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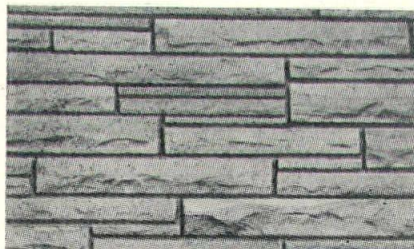
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ST. PAUL BUILDERS EXCHANGE ELECTS STEENBERG PRESIDENT

Richard R. Steenberg, president of Steenberg Construction Co., has been elected president of the St. Paul Builders Exchange in balloting at the group's 58th annual meeting. He succeeded W. F. Poppenberger.

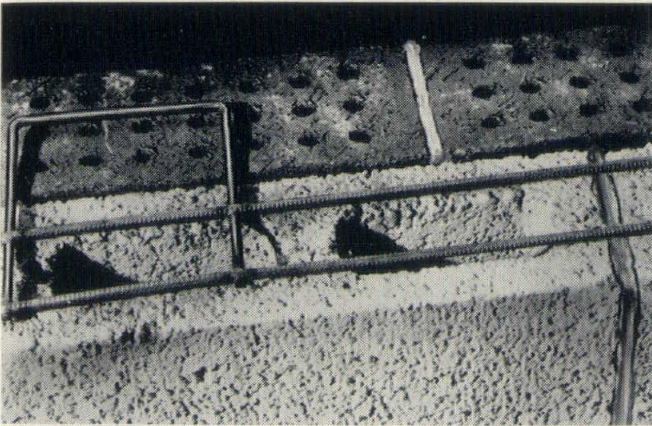
Other new officers elected were Donald F. Kehne of Kehne Electric, vice-president, Ray A. Thibodeau, renamed executive secretary, and Walter H. Baumeister of Baumeister Construction, renamed treasurer. Mr. Thibodeau is in his 12th year as secretary. New directors named were John P. Wollner of Drake Marble Co., Carl Fogelberg of MacArthur Co., Thomas Abate of Tab Construction Co., Russell Swanson of Ashbach Construction Co., L. T. Kenny of Kenny Boiler & Mfg. Co., and Cyril E. Sheehy of Sheehy Construction Co.

Thor W. Becken was appointed by the board of directors to serve out the unexpired term of the late W. F. Napier. Retiring from the board were former directors Al Arrigoni, Robert O. Ashbach, Peter M. Bies, Ray C. Edlund, John T. Hughes, Lawrence Petersen and Robert Sandberg.

President Steenberg is the first son to become president of the exchange during the lifetime of his father. Paul Steenberg was president of the exchange in 1920-21. One other son, J. C. I. Corning, 1949 president, served in the post once held by his father but at that time his father, J. W. L. Corning, 1902-03-04, had died.

ARMOUR TESTS TELL RESULTS ON ECONO-LOK

Armour Research Foundation of Illinois Institute of Technology has completed studies on the possibility of eliminating the troublesome header course in two wythe masonry wall construction. These studies were sponsored by AA Wire Products Company of Chicago, which



manufacture a masonry reinforcement designed "to control shrinkage cracking in concrete masonry walls." Preliminary results indicate that not only can the header be eliminated but greater lateral strengths can be attained by the use of reinforcing masonry ties of the proper design, the firm reported.

The new reinforcing masonry tile, which is marketed under the trade name of Econo-Lok, provides two parallel reinforcing wires which are designed to rest on the face shell webbing of the concrete block backup.

NOVEMBER-DECEMBER, 1957



President Steenberg



Left to right are Directors Thomas Abate and John Wollner, Sec. Ray Thibodeau and Directors Russell Swanson and Carl Fogelberg.

Flush welded to these parallel reinforcing wires are four-inch wide rectangular ties every sixteen inches which tie the backing to the facing.

"Armour Foundation conducted transverse loading and compression loading tests on control panels of concrete block backup and face brick veneer, tied with a continuous brick header every sixteen inches vertically. When transverse loadings were applied, the modulus of rupture on header tied walls was 31 p.s.i., and on wire tied walls the modulus of rupture was 77 p.s.i. The wire tied wall more than doubled the lateral strength of the brick header tied walls.

"The large difference in lateral strength between the header and wire tied walls must be attributed to either a weakness in the header, additional strength from the wire design or a combination of the two. The most logical explanation is that the header weakens the wall in transverse stress by creating a point of stress concentration and often a point of cleavage. The wire design used eliminates this weakness and provides additional shear strength to the hollow unit backup.

Ah, That Ben!

Ben—Franklin, that is—was surely a man with many sides and he apparently kept them all clean for he is credited with bringing one of the first bathtubs to America. Of French make, it was shaped like a huge slipper. Under the heel was a place to build a little fire to warm the water. In the toe was an opening to drain it. Plumbers tell us today we produce—and use—2,500,000 tubs a year. We surely must be "next to Godliness."



ST. PAUL EXCHANGE HOLDS ANNUAL FALL STAG

The annual fall stag for architects, engineers and others in the construction industry was held this past month in St. Paul under sponsorship of the St. Paul Builders' Exchange. A good turnout of local people brought together many phases of the industry for a short time of recreational geniality and our cameraman was among those present.

In our six pictures above are shown, left to right—1-Ray Thibodeau, exchange secretary, W. F. Poppenberger, president, and Evar Cedarleaf, past president. . . . 2-Jim Nerhaugen, Ralph Lee and John Buck of Anchor Block Co. . . . 3-Ken Swanson, Dayton McMoran, Dave Melchart and Bert Bercham, all St. Paul Cement Works, with Bob McGee in center. . . . 4-Richard Peterson, Donovan Maus, Vince Brescancini and Bruce Potter of Venice Art Marble Co. . . . 5-The Arrigoni brothers, Del, Al, Joe and Mike of American Terrazzo Co., with Jim Cabone, second from left. . . . 6-Gene Lentsch of Minnesota Fence, Chuck Bellows of Foley Bros., Carl Fjellman of Walter Butler, Tom Lanasa of Minnesota Fence and Cy Sheehy of Sheehy Construction.

The full page illustrations show, left to right. . . . 1-Dick Nord, Bill Moran, Bob Hewitt and Harry Hoff of St. Paul Foundry Co. . . . 2-Bob Reid, Jack Hustad, president of the Minnesota-Dakotas Producers Council, Gene Flynn, St. Paul city architect, and Bob McGee,

architect. . . . 3-Fred Srauss of Central Building Supply, Bill Poppenberger, Jim Anderson of Cathcart & Maxfield and John Hughes of J. L. Hughes Co. . . . 4-Clem Schmitz of J. L. Hughes Co., Ken Johnson of Jos. Johnson & Son, ready to present one of the many door prizes, and Dode Cedarleaf, program chairman. . . . 5-Evar Cedarleaf, Lay Ledy of Villaume Box & Lumber, Dick Steenberg of Steenberg Construction and Ken Girmscheid of J. D. McLellan & Son. . . .

6-Carl Fogelberg, Louis Benoit of MacArthur Co., and Paul Steenberg, Jr., Steenberg Construction. . . . 7-Les Juehrs of Corning Donohue, C. P. Erickson, architect, R. A. Gmeinder, architect, and Louis Den Boer of Den Boer Construction. . . . 8-Roy Bertleson, Bill Meyer, president and secretary of the Minneapolis exchange, George Sketka of Geo. Sketka & Sons, and Fred Rickmeyer of Sheehy Construction. . . . 9-Milton Rosen, St. Paul public utilities commissioner, Bill Parnell of Universal Sales, Ray Horwath of Mankato Stone Co., and Bernard Troje, Ramsey County detention and workhouse commission executive secretary. . . .

10-Jack Donohue of Corning Donohue, Gys Heeren of Forman Ford, Ray Thibodeau and Evar Cedarleaf, Sr. . . . 11-Bob Henning of D. W. Hickey Co., Arnold Loftus of U. S. Steel Supply, W. C. Rascher and Bob Lehmann of P. F. Lehmann Co. . . . 12-Don Althoff of Pittsburgh Plate Glass, Ken Abrahamson, Sid Wogsland and Fred McCulloch of Hauenstein & Burmeister and John Lustyan of Pittsburgh Plate Glass. . . . 13-Gordy Davis, Mike Brescancini of Venice Art



Marble, Clint Fladlund of Western Mineral Products, Bob Rogers of J. A. Rogers, Fred Miller of Twin City Brick, O. T. Otterkill, Howard Anderson of National Gypsum and Dode Cedarleaf. . . 14—John Sime of Conrad Haglund Co., Clayt Gausman of E. O. Gausman Co., Bud Johnson of St. Paul Builders' Material, Al Philipson and Lloyd Milnar of Standard Building Materials.

PRODUCERS' COUNCIL MEMBERS PLAY SANTA TO HUNDREDS

Members of the Minnesota-Dakota Chapter of the Producers' Council played Santa to some 450 members of the construction industry at the group's annual Christmas party this month. Pres. Jack Hustad, Jr., extended a brief welcome to those at the party and turned them over to the frivolity of the occasion. Our pictures show some of those present. On this page (l-r, top-down) are Curtis Johnson of Pella Products, Al Fischer of Inland Steel, R. V. McCann and Edwin Lundie, both AIA, and Art Bjerken of Fiat Metal Mfg. . . W. D. Anderson of Curtis Lighting, Austin Lange, AIA, Con Aas of Northern States Power and Horace Matson, AIA. . . Pres. Hustad of PC, Dick Steenberg, St. Paul Builders' Exchange president, John Healy of Gardner Hardware and Ray Thibodeau, St. Paul Builders' Exchange. . . Jim Coulter of Keelor Steel, John Barr of American Radiator and Scott Whithnah, Minnesota Association of Consulting Engineers president. . .

On the opposite page are—1—Ken Walters of Cham-



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berlain Co., Brooks Cavin, Minnesota Society of Architects president, Alonzo Hauser of U of M and Gene Flynn, AIA. . . 2—Lyle House, Fred Traynor, Lloyd Weisskvik, Ray Hermanson and Louis Pinault, all AIA. . . 3—Sid Stolte, AIA, Bob Hendershott, AGC manager, C. W. Farnham and Jack Witherspoon, both AIA. . . 4—Magnus Jenne and Charles Magney, both AIA, Jack Homme of Haldemann-Homme and Chuck Schneider of Vermont Marble. . . 5—S. Bertozzi, Paul Haugen, C. E. Jones and E. A. Goodland, all of Minnesota Mining, and E. E. Meier of Schuett-Meuer. . .

6—Cy Kirschener, AIA, Don Magnuson of AGC, David Conkey, engineer, Robert Dunn and Roger Fixsen, both AIA. . . 7—Myron Kehne, Bill Shannon, Lyle House, Arnold Hartwig and Frank Lucente, the last four AIA's. . . 8—George Melcher, J. W. Hayes, Larry Hovik, Tom Ellerbe and Mort Mortenson, all AIA. . . 9—William Alban, Howard Gilman, AIA's, Duke Haldemann of Haldemann-Homme and Ray Corwin, AIA. . . 10—Tom Hendrix, AIA, Paul Murray of Daybrite Lighting, John Newhouse of Northern States Power, Heinie Olson of Twin City Brick and Gordy Matson, AIA. . . 11—Al Sorenson, Gordon Comb, Al Larson and Frank Abrahamson, all AIA. . .

12—Duke Johnson of NSPCo, John Sahlman, AIA, Arnold Hartwig, Ralph Seeley, AIA, and Earl Bartholome of Insulation Sales. . . 13—Sam Carpenter of Drake Marble, George Townsend, AIA, John Wallace of Drake Marble and Donny See of Cargill. . . 14—Lyle Stansfield, AIA, Joe Kuns of Minneapolis Honeywell and Bill Wick, AIA. . . 15—Charles Witz-





len of Structural Clay Products, Vern Loberg of Zonolite, Norm Nelson of Otis Elevator and Larry Smith of Mpls. Honeywell . . . 16—Roy Thorshov, Don Zafke and Don Bloom, AIA's, and Don McShannock . . .

In the pictures at left are—1—Al Nelson, Minn. state architect, Eav Maleitzke, AIA, Berny Mulcahy, Jr., Bell & Gossett, and R. P. McLean, AIA, state architect . . . 2—Al Taylor of Truscon Steel, F. M. Smith, K. A. Toscheff, both AIA, and Bob Anderson of Granco Steel . . . 3—Harry Schroder, AIA, George Otis of Dow Chemical and Harvey Thomson of Walter Butler Co. . . . 4—Al Sorenson, AIA, Rollin Child of U. S. Ceramic Tile, A. Demcak and W. K. Strandberg, both AIA . . . 5—Orrin Field, AIA, Earl Branstrom, Charles Davenport of Inland Steel and Duff Longtin of Celotex.



MINNESOTA CONCRETE PRODUCTS ASSOCIATION MEETS IN MINNEAPOLIS



(See story for identifications)

John K. Bush of Anchor Block Co., St. Paul, was elected president of the Minnesota Concrete Products Association at its annual meeting in Minneapolis in December to succeed Don L. Hammel of Owatonna Concrete Products Co., Owatonna, Minn.

The South Dakota Concrete Products Association joined the Minnesota association and plans are the two

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The
Ladies . . .



associations will continue their work as a unit.

Other officers named included C. M. Freidheim, Jr., Chas. M. Freidheim Co., Minneapolis, first vice-president; W. L. Thompson, Thompson Concrete Products, Brainerd, second vice-president; Bert Berchem, St. Paul Cement Works, St. Paul, secretary; and Palmer Hanson, Hanson Block and Tile Co., Redwood Falls, treasurer.

Directors are Harold L. Flittie, Marshall Concrete Products, Minneapolis; Maurice Barnes, Barnes Sand & Gravel Co., Pipestone; Carlton Penz, Rochester Block & Supply, Rochester; Gust Reiersen, Model Stone Co., Minneapolis; Earl G. Larsen, Starbuck Concrete Products, Starbuck; Art Dahl, Brenny Block Co.,

Cloquet; G. F. Johnston, Minneopa Concrete Products, Mankato; Vince Halverson, secretary of S. D. Concrete Prod. Ass'n., Watertown, S. D.; and Al Gage, Gage Bros. Concrete Products, Sioux Falls, S. D.

In the pictures on Page 76 are (top) President Bush, (center) Secretary Berchem, Treasurer Hanson and Second V-P Thompson and (bottom) Outgoing Pres. Hammel and Directors Gage and Penz.

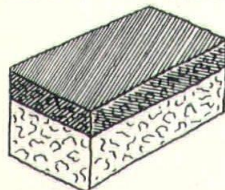
The montage on Page 77 shows (l-r)—1—Panel members who discussed "Concrete Competition with Masonry," Don Erickson of Glacier Sand & Gravel and Vince Meyers of Portland Cement Association and (standing) John Bush, moderator, W. P. Markert of National Concrete Masonry Ass'n., and Milt Swedberg

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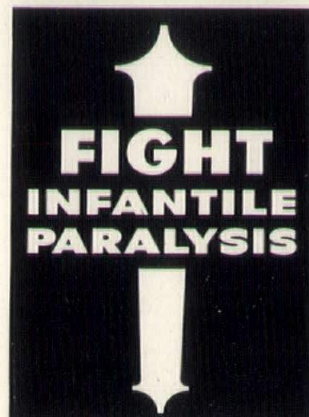
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of Swedberg Construction . . . 2—L. J. Vander Heyden of Dox Blocks, W. E. Schulte of Wal-Truss Co., John Cullinan of Gary Slag Corp'n., and E. W. Hammel of Owatonna Concrete Products . . . 3—C. W. Freidheim, Jr., of Freidheim Co., H. L. Flittie of Marshall Concrete Products, Curtis Goodman of Goodman Concrete and W. J. Brull of Zenith Concrete Products . . . 4—George Saffert of American Artstone, L. W. Hammel of Owatonna Concrete and W. A. Noggle of Besser Co. . . . 5—W. A. Wilson of Fred Johnson Block Co., S. G. Dickinson of Central Building Supply, Harold Roberts of Oscar Roberts Co., and L. R. Kennedy of Acolite . . . 6—W. H. Kuenning of Portland Cement Association, W. W. Underwood of National Concrete Masonry Ass'n., Fred McComb of Portland Cement Ass'n., and Al Benzick of Glacier Sand & Gravel . . .

7—Arnold Josten of Josten Concrete Products, Edward Hoff, Jr., of Aberdeen Block Co. and O. C. Myhre of Josten . . . 8—Pete Neitzke of Neitzke Concrete Products, Bert Berchem and Joe Chalupa, Jr., of Standard Building Materials . . . 9—Willis Sackreiter of Mobridge Cement Products, M. B. Balhorn of Waterloo Underloading Corp'n. and W. J. Molin of Molin Concrete Products . . . 10—Roger Lange of Lange Bros. Building Materials, Jerry Olstad of Concrete Units, Louis Lange, Jr., of Lange Bros., and G. E. Davis of Hawkeye-Marquette Concrete Co. . . . 11—C. M. Freidheim, Sr., of C. M. Freidheim Co., and Gus Pitka of Bergen Machine & Tool Co. . . . 12—C. H. Person of Person Concrete and Earl W. Anderson of Crown Sidewalk & Block Co.

The ladies of some of those who attended the convention are shown on Page 78. Left to right are (top left) Mesdames W. H. Bartlett of Cedar Rapids, Iowa, W. D. Heney of Minneapolis, H. Paulson of Alpena, Mich., and Don Hammel of Owatonna . . . (top right) Mesdames Charlotte Meyers of Minneapolis, Ruth Penz of Rochester and Eleanor Wilson of Duluth . . . (lower left) Mesdames Jack Crabbs of Davenport, Iowa, A. Pitha of Minneapolis, W. J. Brull of Duluth and Paul Strom . . . (lower right) Mesdames Ruth Barnes of Pipestone, Sue Thompson of Brainerd, Marie Neitzke of Detroit Lakes and Kathryn Goodman of Bemidji.

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Architects Attend Pella Meeting

A product information meeting was held for Twin City architects recently by Pella Products of Minneapolis and St. Paul. Presidents, vice-presidents and engineers of the manufacturing firms represented by Pella Products were called in to present improvements and new applications of their lines.

Highlights of the program included a presentation by Stu Kuyper, vice-president of Rolscreen Company of Pella, Iowa, of the redesigned Pella Casement Window. A special feature is a removable muntin that allows easy cleaning and use of insulating glass without sacrificing the traditional look of cut-up lights.

Lee Miller, president of Lemlar Manufacturing Company, presented some remarkable facts on how air conditioning costs can be reduced through the use of exterior monumental louvers. He emphasized that sun control is more important in our area than in the south or west.

C. E. Munson, president of Ador Sales, Inc., of Fullerton, Cal., introduced a sliding glass door designed for cold climates. The new door, appropriately called "Thermo Door," features aluminum extrusions that are separated by a plastic material to prevent transmission of heat through the section.

Other products displayed at the

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meeting were St. Charles Casework, Pella Wood Folding Doors, Peterson Aluminum Sliding Windows, Lami-dall Wall Planking and The Over-head Door.

The Pella meeting was attended by 228 architects and our pictures show some of the activity at the promotion, identifications being left to right.

1-Ed Armstrong, Al Riley, Amby Manion, Jim Kellett, Rogers George

(behind Mr. Kellett) and Pres. Lee Miller of Lemlar. . . . 2-N. H. Mortensson, Myron Kehne, Ken Buetow and Will Storland. . . . 3-William Dreher, Robert Hanson, James Hirsch, Charles Wahlbert and Maurice Breslaw. . . . 4-Charles Berg, Bill Wachtel and Dick Young. . . . 5-Robert Magney, Lew Rehor and Wallace Broberg. . . . 6-C. W. Durr, Kenneth Fullerton and Carl H. Buetow. . . .

7-Howard Nichols, Jim Griffith and John C. Anderson. . . . 8-Walter Johnson, Fred Loewen, Wayne Winsor, Frank Carter, Jr., and Richard Evjen. . . . 9-Sue Hegland, Paul Pink and Ken Buetow. . . . 10-Fred J. Fleischmann, Don Hansen, Dick Young and Don Andrews. . . . 11-Gene Sigvertsen and Tom Black. . . . 12-Douglas Gullifer, Stu Kuyper, vice-president of Rolscreen, and John Grundmanis.

Economy - - -

Whither Goest Thou?

The new year—1958—probably starts with more question marks in attendance than any recent year.

What with the plateau on which our national economy rested as it ended 1957, turmoil abroad against the background of Russian scientific development, variations in the criteria on which our experts base their prognostications and similar unsettling factors, the prospects for the year are just about anyone's guess.

However, hope is definitely a part of the American scene and many persons feel the readjustment needed to give fresh impetus for an upward climb by our nation, its economy and its component individuals is being had. The future, they point out, always has been for the brave and the farsighted to make.

That the building industry is face-to-face with change is not questioned and projects like the redevelopment of the loops of Minneapolis and St. Paul, planning for Duluth, "Chicago Dynamic," "Kansas City—1980" and those in smaller communities bear evidence that the future is being probed with an eye to its growth potentials.

In any economic forward-looking the F. W. Dodge Corporation always has something to say and the group recently released results of a survey of 202 economists, who saw a "modest business rise in 1958."

Economists polled were "numerically optimistic but verbally cautious," Dodge said. "What this

means in plain English is that while they forecast general increases in the major economic indicator series, their comments indicate considerable concern over the outlook for the next year.

"The trend of the numerical estimates given in reply to nine questions calling for specific figures on the principal economic indicator series is not greatly different from last year's survey but there is a decided difference in the tone of the comments which the economists added to their questionnaires. . . . It is difficult to boil down the collective thinking of 202 economists into a composite but the apparent paradox between the generally increasing numerical estimates and the less optimistic tone of the comments seems to arise from the general feeling that the dollar indicators will rise modestly next year largely, if not entirely, due to inflation."

A rather surprising fact was that many of the economists looked upon housing (at even the relatively low rate of only a million non-farm starts a year) as an element of strength. Consumer spending, however, was generally looked upon as the main "up factor" in the economy.

Sputnik appeared on the horizon after most of the questionnaires had been mailed in but one of the late-comers commented, "As I fill in these projections, the press is full of Russia's satellite launching. It

occurs to me that this event, plus their ICBM, might put the steam back in the federal budget! If so, my estimates are too conservative."

One public utility economist called attention to the fact that reasoning from the general to the particular may be especially dangerous—"Regional variations during 1958 are likely to encompass greater degrees of deviation from the national pattern than has been the case in recent years."

Probably the comment that came closest to summarizing the general feeling was from the economist for a manufacturing company who said, "The national economy is now definitely in the 'interim period' between the postwar expansionary boom of the past decade and the resurgence of activity a few years hence when research, obsolescence and population factors will provide a new basis for strong forward movement. Hence 1958 promises to be a year of limited growth with gains largely confined to dollar measures reflecting further moderate inflationary developments. . . . Inflation is still the nation's No. 1 economic problem but in 1958 lack of growth—with all its manifestations—will emerge as the key problem."

On the average, the economists looked for no change in the dollar volume of new construction put in place in 1958. In the first half of 1957 the value of new construction

was running at an annual rate of about \$47 billion and the median forecast of the economists was that this rate would continue in the second half of 1957 and in both halves of 1958. They did not show any great degree of unanimity on this point, however, with the second half 1958 estimates covering a wide range. About 10 per cent thought the figure would be \$49.5 or higher and about the same number picked \$43.5 or lower. Most of the replies, however (55 per cent), were in the range of \$46 to \$48 billion.

As to pattern, 32 per cent of the economists expected a steady in-

crease over 1957 in both halves of 1958, while 22 per cent foresaw a steady decrease. Another 16 per cent felt that the first half would be down, while the second half would increase and seven per cent saw the first half as steady, with a rise in the second half. Another seven per cent expected no change at all. The remainder expected various other combinations.

The economists were a little more optimistic about the number of privately financed non-farm housing starts. The seasonally adjusted annual rate in the first half of 1957 averaged 957,000. The median fore-

cast of the economists is for a second half figure of 975,000, although the most popular (modal) figure, chosen by 51 economists, is 1,000,000. The median and mode are both 1,000,000 for the first half of 1958. For the second half, the median was also 1,000,000, but 1,100,000 was selected by about the same number of economists. There were very few extreme estimates in either direction. Only twelve economists picked figures for the second half of 1958 lower than 900,000, and only eight gave estimates of 1,200,000 or more.

RICE COUNTY DAIRY FARM

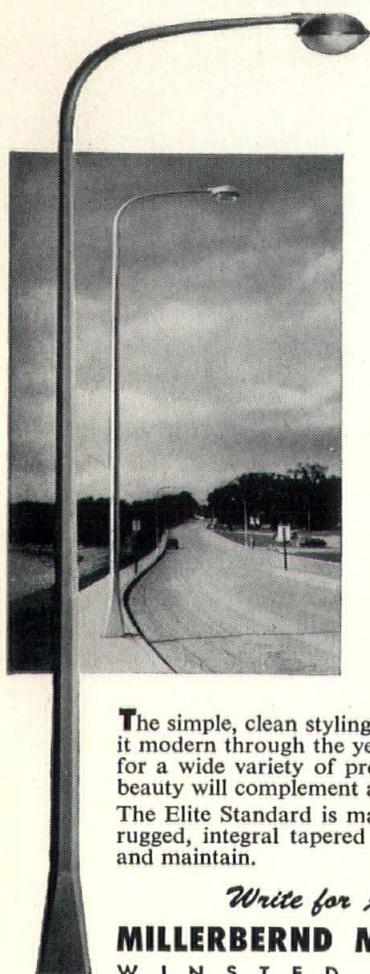
(Continued from Page 65)

either trees or land prominence, should be located to the north, west or northwest for winter protection.

2. Functional Management Factors: The farm house serves as business center, house. A location that affords a view of much of the farm is desirable. Fields and pastures should be accessible with the least amount

of fencing and with minimum loss of time. Lanes and farm roads should be kept to a minimum.

3. Establishment of a Site. External Factors: (1) highway and transportation facilities, (2) telephone lines, (3) electric power lines, (4) mail routes and (5) service facilities. Locations away from main highways or country roads are likely to involve added cost and difficulty in obtaining approaches, utilities and services. There are objections, however, to too close an access to highways, those of noise, pollution of air and matters of safety for children and livestock. Proximity to schools, churches, markets and possibly neighbors are also necessary requirements in site choice.



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Physical Factors: The topography of the site may limit the size and shape of usable farm land. Streams, steep slopes, outcroppings of stone and ground cover will effect the solution of the arrangement and planning. The natural features shall be used as much as possible to enhance the whole farm appearance. Water supply must be abundant, usually from drilled wells. Drainage essential to carry away surface water and to eliminate low spots and surface water in building areas. Erosion control is necessary on steep slopes and erodible channels for surface water. Air circulation: a compromise between high, exposed location for buildings and low, poorly ventilated area, possibly a high location with some natural windbreak.

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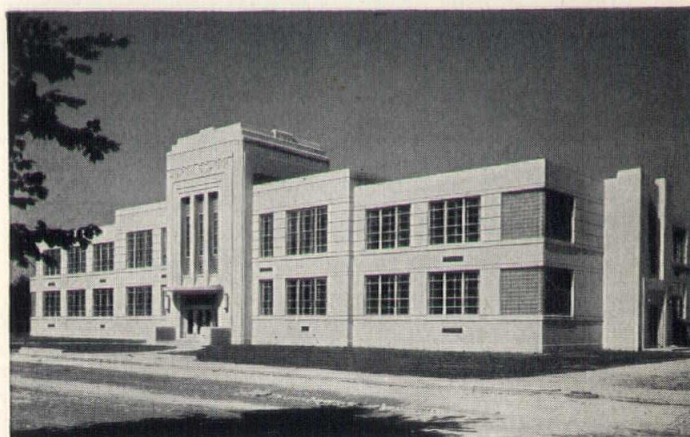
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Architecturally Designed Construction to Rise 5.2% in 1958

Business in the nation's architectural firms will rise 5.2 per cent in 1958, according to the eighth annual "Architectural Business Forecast" prepared by *Progressive Architecture*. Business in the average architectural firm will come to \$4,339,000, or \$226,000 more than in 1957. The Forecast reflects work reported in more than 1,000 architectural offices throughout the United States which will go into construction next year.

"The 5.2 per cent rise in architectural business, when compared to the recently reported government estimate of a 3 per cent rise for construction generally, reveals that the *real health* of the construction market lies in architecturally designed construction," the release pointed out.

The report showed that building for commerce and education will lead in the average firm, with commerce building to account for \$998,000 per average firm and education for \$899,000. This picture is caused not by a significant drop in school commissions, but by an impressive rise in commissions for office buildings, the magazine said. Another building type showing a rise over 1957 is health. Here the large number of doctors' clinics and health facilities of other types, added to the continuing activity in hospital design, brings the reported figure—\$463,000 per average firm—well above last year's average.

The Northeast leads all other regions in dollar volume per average architectural firm. The average firm in this region has \$6,847,000 worth of work on the boards. The Great Lakes and California-Nevada regions are second and third, with \$5,177,000 and \$4,607,000 per average firm, respectively.

Architecturally designed construction is seen by *Progressive Architecture* as the leading force for growth in the construction field—"with a larger percentage growth next year than construction generally, this is the market which manufacturers must look to increasingly for better sales and product development."

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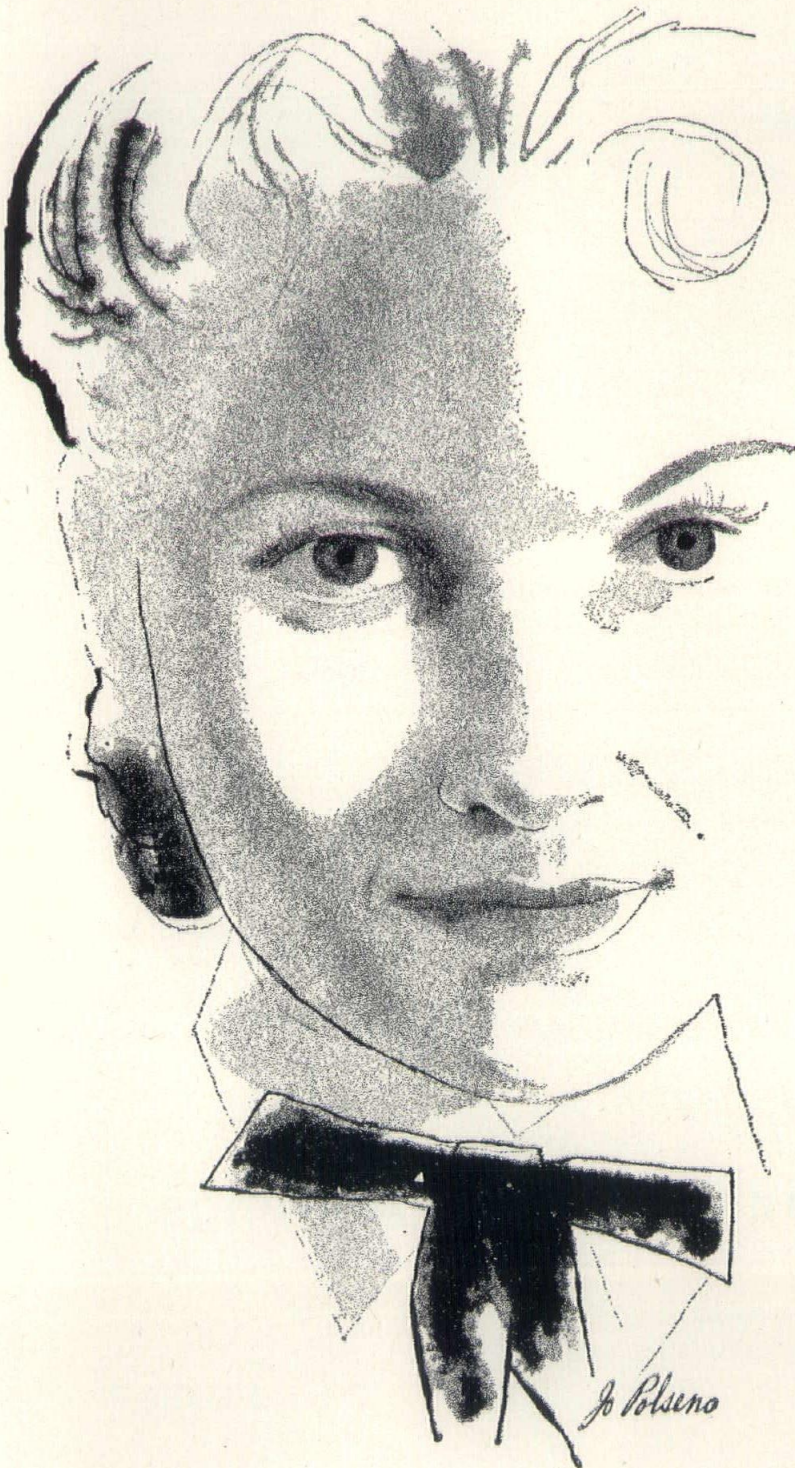
This one question posed another: How many more employees, like the typist, would like to buy Savings Bonds automatically through Payroll Savings, yet, were not aware that we've had a Plan for years?

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A phone call brought the assistance of our State Savings Bond Director. He helped plan a company-wide campaign, and provided all the materials to inform our people about the advantages of U. S. Savings Bonds. Everyone received an application card.

The upshot? Employee participation shot up to the highest percentage since the mid-Forties. And the whole program was conducted in good order. Work was never interrupted.

Today there are more Payroll savers than ever before in peace time. Look up your State Director in the phone book or write: Savings Bonds Division, U. S. Treasury Dept., Washington, D. C.



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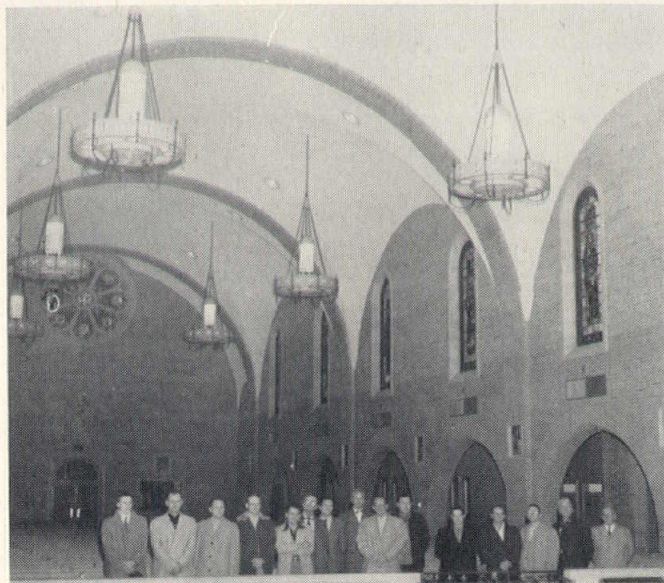
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PRODUCTS and SERVICES

**Cross Section
of What's
NEW**

B.M.D. & R., INC., CRAFTSMEN INSPECT THEIR HANDIWORK



B.M.D. & R., Inc., took time out from a busy schedule to take key shop employees on a tour to see some of the custom lighting installations which they have been turning out during the past years.

"Rarely do craftsmen have an opportunity to see the results of their work in completed form, actually installed in the buildings for which it was designed," officers of the company said. "It was felt that employees should share with the employer the feeling of pride of a job well done. Our firm is so interested

in turning out a quality product that we visited these installations to see how we could improve manufacturing and design techniques."

Some of the places inspected were the St. Paul Cathedral, St. Paul; Holy Spirit Church, St. Paul; Plymouth Congregational Church, Minneapolis; Mount Olivet Lutheran Church, Minneapolis; St. Luke's Lutheran Church, St. Louis Park; Prince of Peace Church, St. Louis Park; Hopkins Senior High School, St. Louis Park High School and First Federal Savings and Loan, St. Louis Park.

NEW McQUAY 50-TON CONDENSER ANNOUNCED

A new air cooled condenser which has a capacity of up to 50 tons in a single unit has been announced by McQuay, Inc., Minneapolis, manufacturers of air conditioning, heating and refrigeration equipment. This AB model Aircon is belt driven, remote and is designed for waterless refrigeration and air conditioning. It has a single fan and motor assembly.

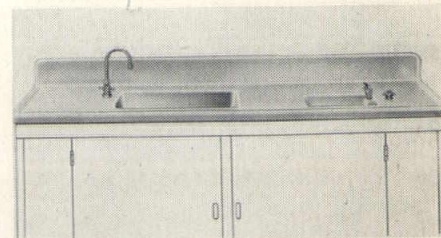
McQuay's line of Aircons is con-

structed in two types, the company said, 2-, 3- and 5-ton nominal capacity direct drive models for commercial and industrial applications and belt driven models in eight sizes—9, 11, 15, 20, 25, 30, 40 and 50-ton nominal capacity in single units for larger condensing requirements, such as air conditioning and refrigerating supermarkets, shopping centers, office buildings or large industrial plants.

Aircon coils are constructed of copper tubes with exclusive McQuay Ripple Aluminum Fins. McQuay Aircons have an accessory in the "Seasoncontrol," permitting peak performance in winter as well as summer and are designed for multiple circuiting so that two or more separate refrigeration systems can be connected to the same condenser.

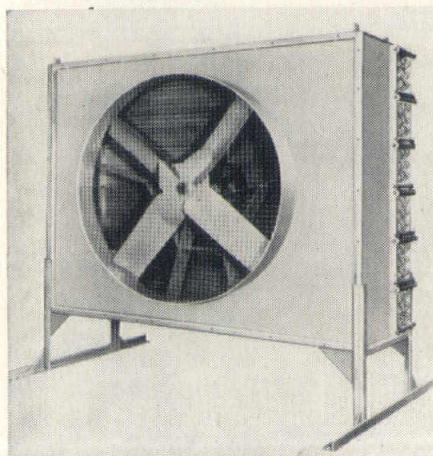
HAWS MEETS PARTICULAR AREA REQUIREMENTS

A new, one-piece deck-top, receptor and fountain unit, specially molded in lightweight fiberglass to meet code requirements in particular areas which call for a drinking



fountain separate from the pantry receptor has been announced by Haws Drinking Faucet Company, Berkeley, Cal. This Series 2700 has two receptors, a large central one with a selected Haws pantry faucet and a smaller receptor with a drinking fountain.

"An outstanding feature of this one-piece unit is the complete absence of rims, cracks, and joints,



eliminating undesirable accumulation of dirt and water," the release said. "Water runs unhindered from deck-top to receptor. Installation of these 6-foot units is easily accomplished by attaching the wooden receptor backing to a prepared frame or cabinet.

"The rugged, smoothly molded fiberglass two-receptor unit is available in white and a choice of five decorator colors at no extra cost. Fiberglass is alkali and acid resistant and has proved ideal for fountain construction. The pantry faucet

can be one of two types, a chrome-plated gooseneck faucet or a hot and cold compression type double faucet. Both are vandal-proof mounted. Optional integral backsplash or endsplash will be provided."

PORTLAND CEMENT ASSOCIATION ADVANCES TWO STAFFERS

Appointment of Thomas E. Long as assistant to the vice-president for

promotion of the Portland Cement Association was announced today by James D. Piper, vice-president for promotion.

Mr. Long, a registered engineer in North Dakota, joined the association in November, 1947, as assistant manager of the Farm Bureau and became manager the following August.

Maurice L. Burgener succeeded Mr. Long as manager of the Farm Bureau. Mr. Burgener joined the association in August, 1949, as an agricultural engineer.

KRAUS APPOINTED FIELD ENGINEER FOR STRUCTURAL CLAY PRODUCTS INSTITUTE

Jerry Kraus of Whitewater, Wis., has been appointed a field engineer for Region 6, Structural Clay Prod-



Mr. Kraus

ucts Institute, according to J. E. Neville, regional director. Mr. Kraus, who graduated from Wisconsin Institute of Technology in spring of 1957, was graduated from the SCPI Engineering Training Program in Washington, D. C., this summer. He will work in Nebraska and Iowa.

PLASTIC TUB ENCLOSURE LOOKS LIKE GLASS

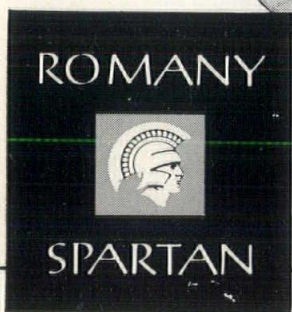
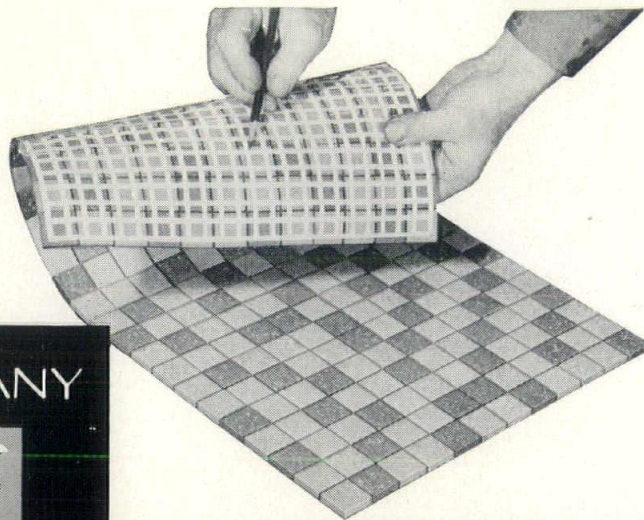
A new, featherlight tub inclosure called "Shower Wonder," manufactured by Holiday Sales Corporation, Miami, is being boosted for its low price of \$29.95 and its ease of installation.

"The frame is of heavy extruded aluminum, with panel frames (completely assembled) of rolled aluminum," the company said. "It op-

NORTHWEST ARCHITECT

Here you see both the back and face of Romany•Spartan Quickset-mounted $1\frac{1}{16}$ " x $1\frac{1}{16}$ " Orsan tile. The thin, perforated backing exposes over 46% of the tile back and 70% of the perimeter to guarantee positive bond with setting bed.

Because face is exposed, Quickset goes down faster with perfect pattern match. Time-consuming removal of paper facing is eliminated.



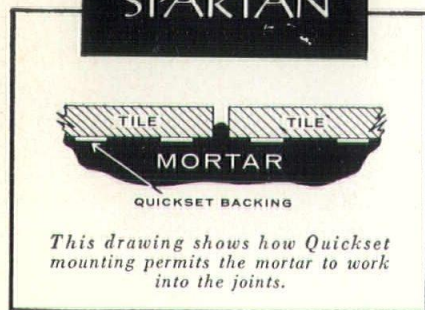
For faster mortar bed setting of ceramic mosaics... use

Quickset-mounted Romany•Spartan

New moisture resistant backing eliminates sheet distortion, speeds setting, cuts installation cost.

This perforated backing exposes more than 46% of the perimeter, including corners, insures positive bond with setting bed.

Quickset is currently available on $1\frac{1}{16}$ " x $1\frac{1}{16}$ ", $1\frac{1}{16}$ " x $2\frac{1}{8}$ ", $2\frac{1}{8}$ " x $2\frac{1}{8}$ " and combinations of these sizes in Faience, Mosaic, Orsan and Spartex. $1\frac{1}{16}$ " x $1\frac{1}{16}$ " only on Dresden and Drestex. For details, call:



Here is an outstanding new development for conventional or thin mortar bed setting of ceramic tile.

The polyethylene-coated backing material on Quickset-mounted tile eliminates separation of tile and backing due to setting bed moisture... protects against stretching or shrinking... assures accurate joint alignment.

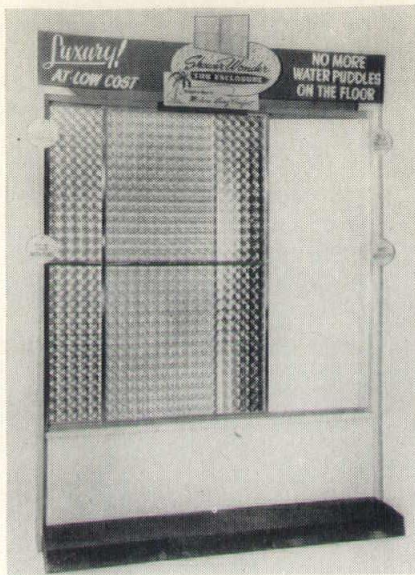


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erates exactly like a glass tub enclosure, riding on nylon rollers on the top and nylon guides on the bottom, so that aluminum never touches aluminum, thus assuring that this unit will glide smoothly at all times without the possibility of a freeze-up."

The manufacturer's address is 7400 N.W. 37th Avenue, Miami 47, Florida.



AUTOMATIC LIGHTING AVAILABLE FOR SMALLER INSTALLATIONS

A new, built-in timer for automatically controlling smaller lighting installations has been announced by International Register Company, Chicago.

"Called the Intermatic Lamp-Lyter, the switch with the electronic brain, it is both functional and beautiful in design," the company said. "Wired into one or more circuits, the Lamp-Lyter will turn lights on and off automatically. Low in price, Lamp-Lyter fills a need for practical lighting control that operates both automatically and manually and, at

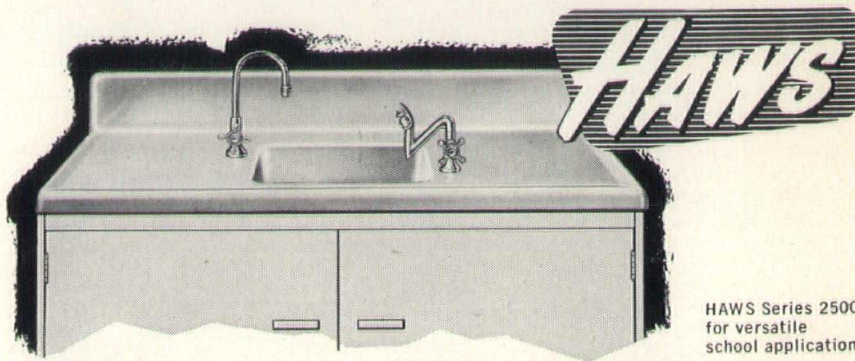
the same time, can be located in a convenient position."

Housed in a receptacle approximately the size of a double junction box, the Lamp-Lyter can be mounted in a wall replacing a conventional junction box-toggle switch. It's beveled-edge door with concealed hinges mounts flush with the wall.

Two features make Lamp-Lyter unique, a twenty-four hour time dial

and a finger-touch control lever. The twenty-four hour clock dial makes possible automatic operation of any circuit at any hour of the day or night, for periods as short as fifteen minutes or as long as twenty-three hours.

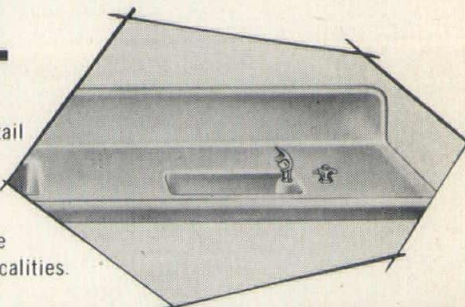
Complete details can be had from the manufacturer, 2624 W. Washington Blvd., Chicago 12, in Bulletin NR No. 197.



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Get the full story: write for detail sheets for Series 2500. A drinking fountain separate from main receptor is provided on Series 2700 "two receptor" units, to meet code requirements of certain localities.



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LIGHTER, MORE COMPACT INSULATION REPORTED BY FIBERGLAS

A new, lighter and more compact residential building insulation, manufactured without breather paper, has been announced by Owens-Corning Fiberglas Corporation. The company said the product, known as Fiberglas New Process Building Insulation, is the result of several years of research and development and is manufactured by a new glass forming process.

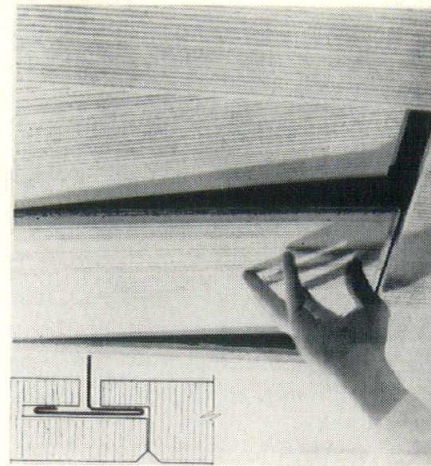
"Its light weight is expected to result in significant savings through more rapid application, reduction of space needed to store the product and less cost for transportation," the report said.

"The product includes only one layer of paper, the vapor barrier. The breather paper has been eliminated as the insulation does not need this support. This factor also facilitates cutting the insulation to desired size and provides extra fire safety."

Owens-Corning said the insula-

tion product presently is not available in the states bordering the Great Lakes nor in the 11 western states. However, they point out the new product soon will be available in those areas. The new product is being produced as Batts and Roll Blankets at Fiberglas General Products Division plants in Barrington, N. J., and Kansas City, Kan.

Also announced recently is the Fiberglas Access Tile, which pro-



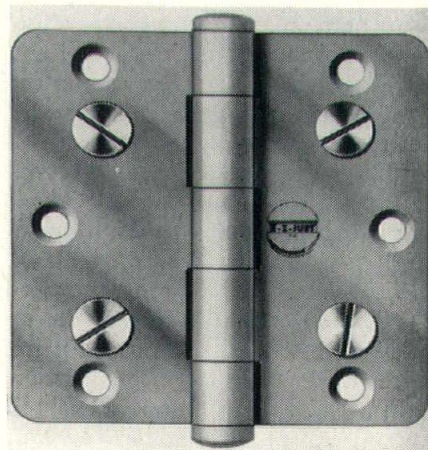
The access file

vides the only standard concealed suspension system ceiling which has full accessibility to the space above.

Available in textured, fresco, perforated, straited and random perforated finish, Fiberglas Access Tile measures 12" x 24" x 3/4" and is specially kerfed for installation on a concealed "Z" spline mechanical suspension system.

NEW ADJUSTABLE DOOR HINGE SAVES TIME

Door adjustment in a matter of seconds without removing the hinge from the door is now possible with a new hinge made by E-Z-Just



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Sweet's Catalog Section 13G

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Hinge Co., Los Angeles. The company says its E-Z-Just Door Butt is expected to reduce installation and readjustment time by more than 25%. "The butt with its unique adjustment screws is installed only once—the first time," the company release said. "With the E-Z-Just installed, a few turns of the screwdriver in the slotted adjustment screws will eliminate hinge bind and quickly straighten the door without the usual necessity of planing and repainting of finished surfaces. Door adjustment up to 1/4", up or down, in or out is easily accomplished. The adjustment screws in no way detract from the appearance or the normal use of the hinges."

Further information is available from the manufacturer at 4175 Don Luis Drive, Los Angeles.

NEW MOVABLE WALLS INTRODUCED BY HAUSER- MAN AND REYNOLDS

The natural beauty and versatility of aluminum is utilized fully in a new modular movable aluminum wall system jointly developed by the E. F. Hauserman Company, Cleveland, and the Reynolds Metals Company, Louisville, Ky. The new Hauserman aluminum wall is believed to be the first to take full advantage of aluminum as a wall material both functionally and aesthetically, according to the manufacturers.

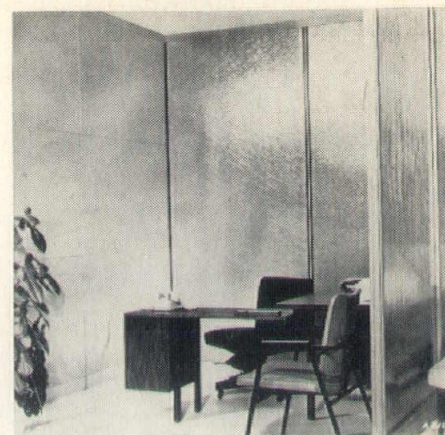
The wide variety of precision components available in the system can be integrated in almost infinite combinations to provide the architect, in effect, with custom design without the prohibitive cost of custom manufacture, Fred M. Hauserman said. All components are based on a 4-inch module throughout.

Wall panels of the system are available in natural aluminum or an almost unlimited number of colors. Embossed panels in a variety of textures and patterns, in natural metal or in color, are also being produced. Panel sections can be stacked between posts in a variety of ways, the company said.

Posts are formed of extruded aluminum, allowing the architect to create his own designs. Wall sections can be joined with narrow beads or wide column effects, us-

ing recessed, flush or protruding posts in any profile and in any finish, including sparkling anodized colors. A variety of glass treatments offer the architect a further opportunity to create an individualized distinctive interior.

Other features of the new aluminum walls include a "floating" door frame which allows easy adjustment to compensate for varying floor levels and eliminates any problem when carpeting is laid on one side of the door only, and a continuous rubber cushioned strike on the door frame for quiet and positive closing.



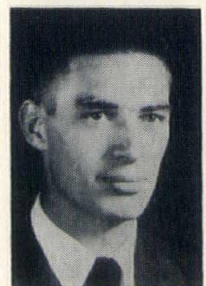
A Hauserman installation



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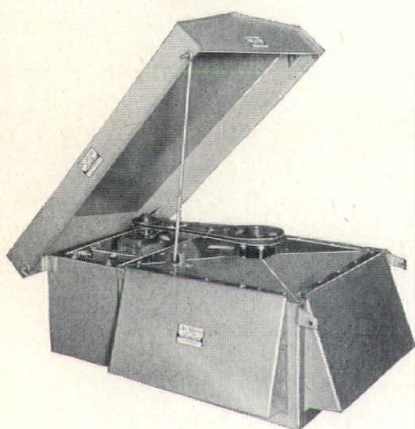
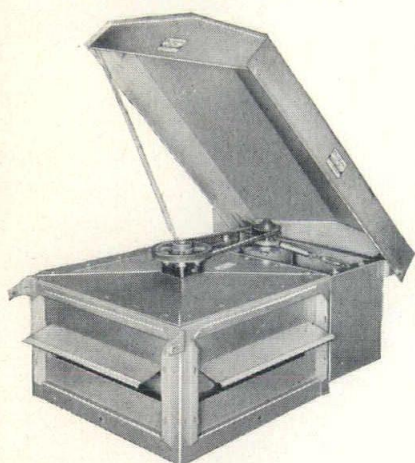
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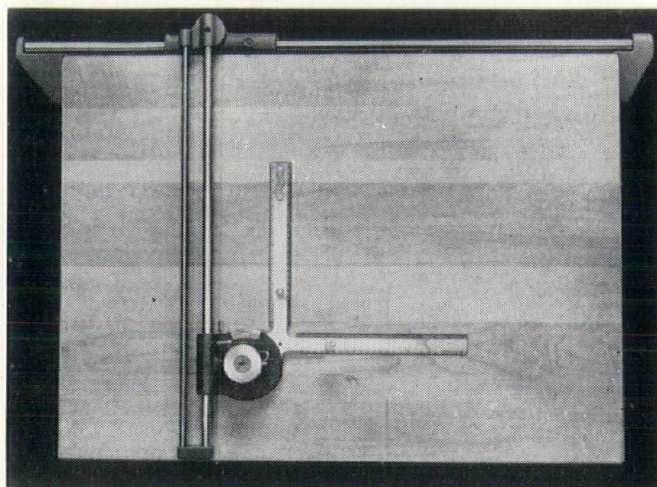
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Aluminum glazing strips are used with the system for fast and easy initial glazing and speedy subsequent de-glazing when the partitions are moved. A "clean, moderate appearance" for the completed installation is assured by the inclusion in the product of recessed base and ceiling trim. The trim is removable to allow access to utility wiring from both sides of the partition. The aluminum walls can be easily taken down and re-erected in another lo-

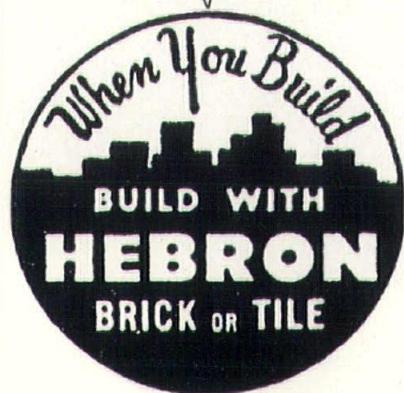
cation without loss of material.

"Installation of the walls is made by a skilled Hauserman erection crew, responsible for delivering a completely satisfactory job," the company said, "and Hauserman's unique lifetime service is always available if the walls must later be relocated. Since the wall components arrive at the job site completely prefabricated, the walls can be erected as soon as the shell of the building is finished."



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A newly designed drafting machine now being offered by the Glideline Corporation, 300 South Potomac Street, Waynesboro, Pa., has been created with "one goal in mind, to bring the advantages of modern engineering design and manufacturing techniques into the engineering department where they originated."

The new Glideline machine offers complete, unobstructed board coverage, elimination of machine overhang, ability to work with the drawing board at any angle without the necessity of changing counterweights or counterbalances, controls conveniently located for one-hand operation, instant angle settings with automatic 15° indexing, 360° protractor and use with any standard scale plates.

Only the scales touch the paper, the maker said, and the machine will draw long, continuous parallel, horizontal or vertical lines. Standard models for board coverage range from 24" x 30" to 48" x 96" and special vertical wall board units to 8' x 30'.

Descriptive literature can be had by writing the company.

NORTHWEST ARCHITECT



INTERIOR WALLS ENHANCED BY NEVAMAR BOARD

Economical but producing a very attractive result are the qualities reported for Navamar Board, interior wall finish product made by the National Plastic Products Company. The board has been especially designed for beautiful wall paneling, wainscoting and similar applications."

The board is 5/32-inch thick to provide a strong and durable panel that does not require extra backing, the company pointed out. It can be installed directly on furring, studing or over old walls. Easily sawed, drilled and planed, the board has a special surface, highly resistant to alcohol, acids, alkalies, heat and abrasion. Free from chipping and peeling under normal conditions, the board requires no finishing.

"Warm wood grains and colorful modern patterns make this ideal for a wide variety of applications," the report said. The wood grained panels can be obtained with either vertical or horizontal grain patterns.

STAINLESS STEEL COMPONENTS DETAILED

"Products of Stainless Steel for Architects and Builders," a new 44-page illustrated reference manual, has just been published by Committee of Stainless Steel Producers, American Iron and Steel Institute. The new book describes a wide variety of factory-made stainless steel components and lists their manufacturers, making it a worthwhile reference booklet.

"Because of its beauty and outstanding structural strength, freedom from corrosion, low maintenance requirements and long-range

economy, stainless is considered in many instances the ideal material for many architectural and construction products," the institute release pointed out. "It has long been specified by architects and builders for custom designed applications. Recently, however, in response to growing demands, many manufacturers have begun to produce standard designs in stainless steel."

The booklet is well illustrated

with photographs, detail drawings, profiles and exploded views showing the products in use.

The booklet includes a 3½-page listing of stainless steel component manufacturers, listed by component type, as a source file for the architect. It is available without charge from The Committee of Stainless Steel Producers, American Iron and Steel Institute, 150 East 42nd Street, New York 17.



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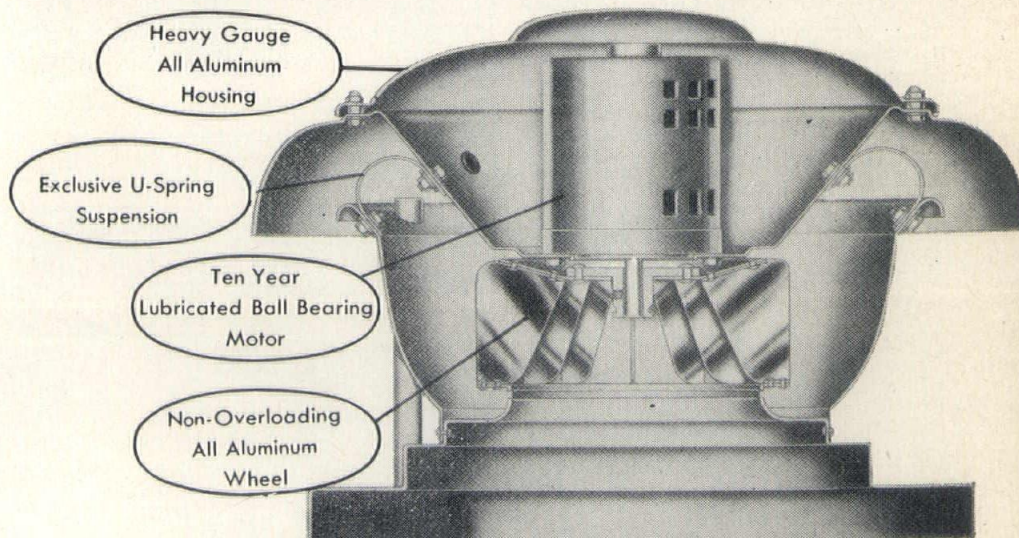
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SECURE GRIP, EASY IN OR OUT, FEATURE NEW PLAN HOLDER

Secure grip on plans while providing easy insertion or removal of them are features of the "Plan Hold Table Clamps" shown here and manufactured by Plan Hold Corporation, South Gate, Cal.

"These aluminum clamps are specially designed to hold a fully loaded Plan Hold unit in place while

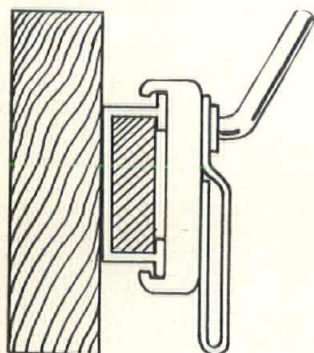


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leafing through sheets," the release said. "No tools or fasteners of any kind are required to place or remove a Plan Hold from its secure position within the table clamps, a mere twist of the wrist and it is in or out."

Descriptive catalog is available, with prices, from the maker, whose address is P.O. Box 1055A, South Gate, Cal.

CONCRETE BLOCKS PRE-STRESSED FOR BOWSTRING TRUSS

A method of prestressing concrete blocks so they form an arch, or bowstring roof truss, has been used in the construction of a supermarket in Alpena, Michigan, according to The National Concrete Masonry Association. The installation is said to be the first of its kind in the United States and possibly the world.

Eight trusses, each weighing approximately 20 tons, span the 100-by 150-foot concrete masonry structure. They are 100-feet long and can support a live load of 40 psf. Design is effected by special shaped soffit blocks, featuring cast channels in which steel wires are threaded.

Hoisted into position by crane, the trusses are spaced 18 feet, 8 inches apart. Every other truss has an arch of about 13 feet and alter-

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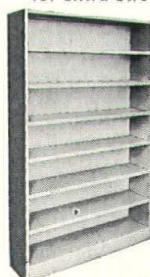
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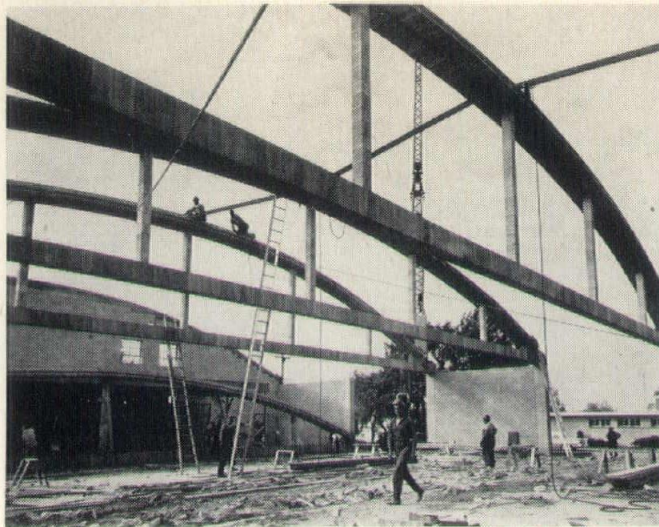
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The
Bowstring
Truss



nate trusses rise around 11 feet. This technique gives the roof a folded shell appearance as well as a resistance to heavy snow fall indigenous to that area.

All fabrication took place right at the job site. The straight tension tie, or bottom chord, of the truss is composed of U-shaped lintel block (12 by 16 in.) filled entirely with grout. Post-tensioning is provided for by four flexible tubes, each of which encases 10 prestressing wires.

Assembly of the bow, or top chord, consists of laying two rows of 8-inch high hollow soffit block side-by-side on previously built light scaffolding. A single row of 6-inch high units is then placed atop the double row. Here again, prestressing wires are inserted in the special grooves.

Both chords are subsequently post-tensioned and grouted. Anchorage is supplied by precast reinforced concrete end blocks. All prestressing wire (1/4-inch diameter) is cold drawn steel, with an ultimate strength of 240,000 psi.

Vertical hanger posts (five per truss) support the bottom chord. They are made up of 8- by 8-inch units, filled with grout, and two mild steel bars. Roof area between trusses is built of 6-inch pretensioned soffit block planks. All told, there are approximately 25,000 concrete blocks in the roof.

Engineers and developers of the system point out that trusses built of hollow masonry block are 50 per cent lighter than conventional solid prestressed girders. Block's fireproof qualities are likewise cited, together with the fact that such construction

will not collapse under heat. Cost is held comparable to both wood and steel systems.

POLE-TYPE BUILDING DESIGN BOOKLET ISSUED

Of particular value to the architect in the more rural areas is "How to Design Pole-Type Buildings," a new manual which presents a concise, comprehensive compilation of engineering and design data on the rapidly increasing uses of pressure treated round and sawn timbers in commercial and industrial warehouses, service buildings and other structures.

Seventeen line drawings and accompanying text show how to compute live, dead and wind loads and stresses for every structural member

of a proposed pole-type building. An embedment chart, tables and text enable users to make quick, dependable calculations of required pole embedment depths to handle anticipated maximum loads and stresses.

Donald Patterson, Detroit, the author, is a well known structural engineer and authority on pole-type construction. In this handbook he presents time-tested design procedures for proportioning structural members of pole-type buildings of all sizes, kinds and uses. Carefully

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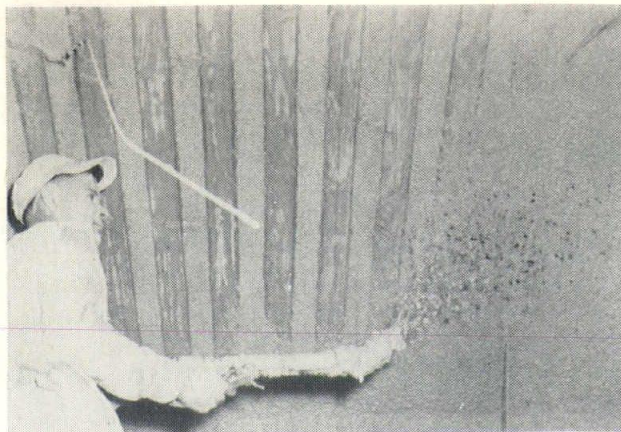
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FLEXICORE is the modern building material.

selected typical examples are illustrated and described, with accompanying line drawings that show construction details.

This new 68-page and cover booklet is available for \$1.50 a copy from its publisher, American Wood Preservers Institute, 111 West Washington Street, Chicago 2.

Acoustical plastic being sprayed on ceiling.



NEW ACOUSTICAL SPRAYING IS ECONOMICAL

The four-hour fire rating awarded to vermiculite acoustical plastic sprayed by machine directly to the underside of a galvanized steel floor assembly marks a major advance in fireproofing methods, according to vermiculite research people.

"One of the primary advantages is economy," they reported recently. "In most areas the cost saving runs 15 to 20 cents per square foot compared with conventional lightweight plaster fireproofing. The steel can be erected quickly and the building fireproofed while outer walls are still going up. Since the fireproofing is

out of the way of most trades it is less subject to damage. Stairs can be installed immediately and fireproofed later by spraying the material into small openings where stair stringers pass beams."

Direct-to-steel is a practical answer to space problems created by the demand for more mechanical services and equipment, they said. Maximum usable space in a given height is obtained. The architect has complete freedom in placing duct work and utilities and the space between the ceiling and the

floor above can be used as a plenum chamber, if desired.

"Since the fireproofing is above the ceiling plane, fused protection is not needed for recessed lighting fixtures and air diffusers. Any number desired can be installed without concern for insurance penalties on openings that exceed 100 square inches per 100 square feet," the reports said.

In a building designed for varied tenancies and ceiling heights, construction can proceed before the ceiling pattern and permanent partition plans are established. Office space can be rearranged any time in the future without penetrating the fire protection. Where the fireproofing is left exposed or where an open grid metal ceiling is installed, the fireproofing can also serve as sound conditioning.

The new method is fast and thorough, according to its developers. The plastic is mixed on each floor conveniently near the plaster pump and is sprayed directly to the metal. The usual procedure is to spray from rolling scaffolds. Some jobs have been done from the floor with an aluminum pipe extension attached to the nozzle.

WATERSTOPS

RUBBER — LABYRINTH

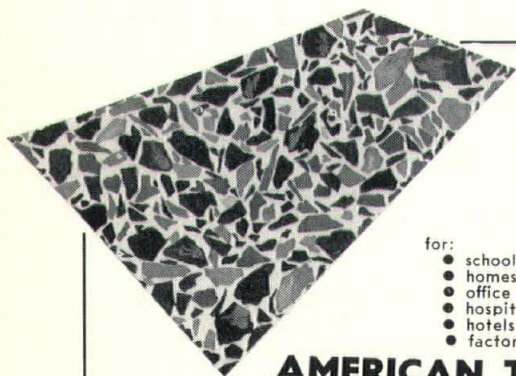
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Where cellular units are laid cell side down, the channels between cells are sprayed first and filled solid with plastic. The material is struck off immediately flush with the bottom of the cells. The second coat is applied to required thickness over the entire area when the first coat has dried. On corrugated steel sections, the valleys between the corrugations are filled first and rodded at once so the bottom of the corrugation is exposed. When this is dry, the second coat is applied. Flat plate units are sprayed in two successive coats also.

In any of these applications, the second coat need not be touched with hand tools unless the fireproofing is to be exposed as a finished ceiling. In that event the second coat is darried to provide a smooth, level surface for a sprayed texture finish. Contractors make constant measurement checks with a gauge to assure uniform specified thickness.

The bond of vermiculite plastic to various bases has been tested in the past with the usual "pull" test. Test results show that the material can

support more than 1,000 pounds per square foot.

To duplicate bond stresses under actual job conditions, a test was developed to subject specimens to repeated flexural loadings at successively increasing deflections far in excess of those considered allowable. Repeated flexing of the specimens produced both vibration and flexure in the materials.

A galvanized sheet 27½ inches wide and 84 inches long with vermiculite acoustic applied to its under-surface was supported on I-beams spaced 51 inches apart. An I-beam was placed on top of the sheet at each third point—17 inches from each end support. The flexural loading was applied to these beams through a rig and a walking beam fixed at one end and operating up and down at the other end by means of a special mechanical arrangement.

The 51-inch span was used to obtain a ¼-inch deflection under the initial load. Additional loads were added to the walking beam to obtain greater deflections. The speci-

men was finally subjected to a total of 750,000 cycles with a total live load of 1,460 pounds and a deflection of 0.71 inch or 3.3 times the maximum design load deflection.

Throughout this severe test the plastic adhered to the underside of the sheet and there was no spalling or flaking of the material.

Following a recent 4½-hour fire test on a galvanized steel floor with acoustical plastic on its underside, a hose stream of 45 pounds per square inch pressure was applied to the ceiling for 7½ minutes, in accordance with standard test requirements. This severe impact on a construction that had just been subjected to a 4½-hour fire did not cause any of the plastic to separate from the floor.

Currently, construction worth millions of dollars is being fireproofed with this new method as its simplicity and economy make it the most attractive fireproofing system developed to date, the reports said.

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