

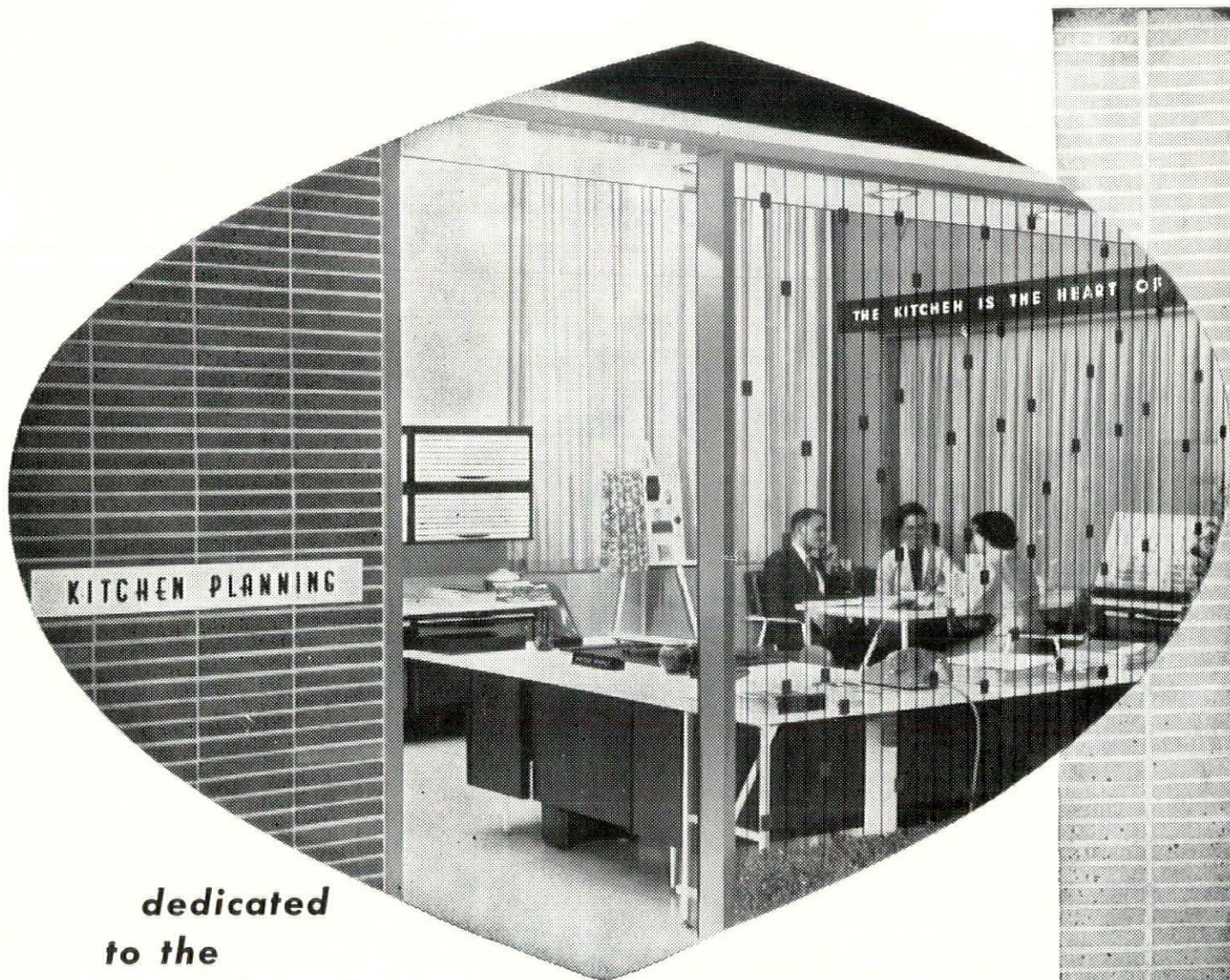
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How High Is Up

— for a city . . . see page 8





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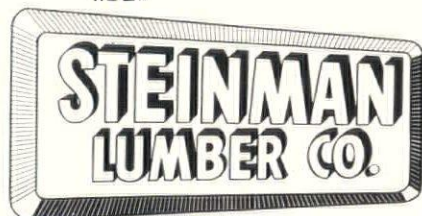
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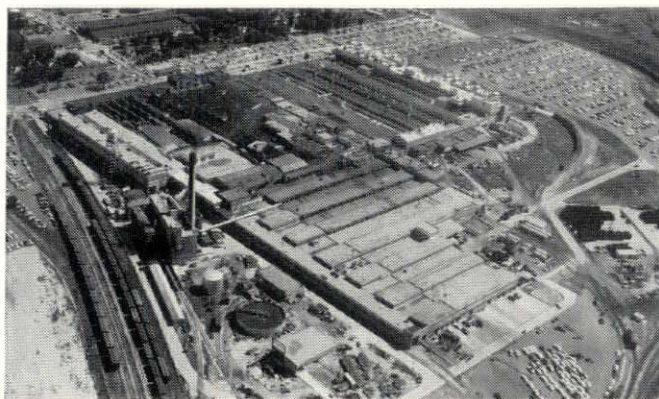
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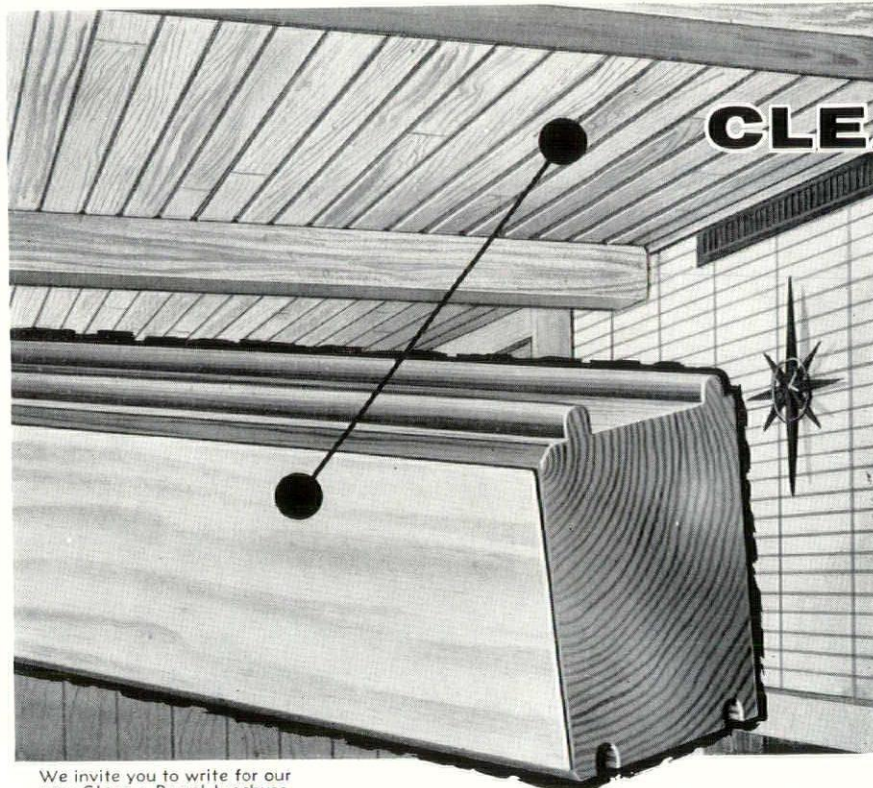
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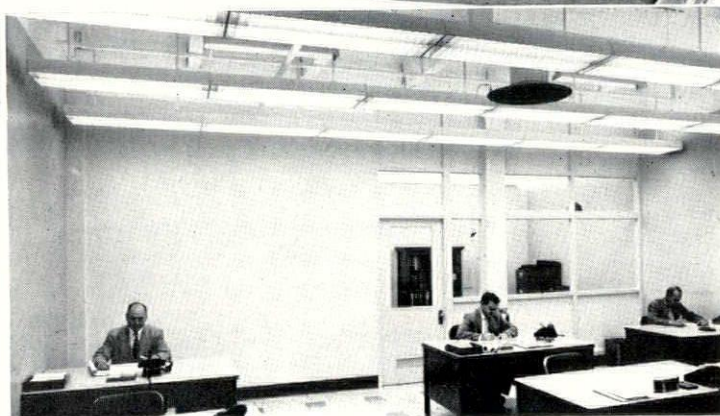
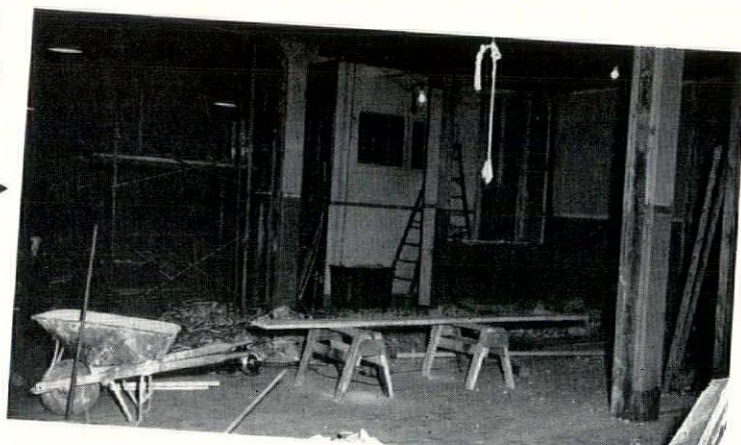
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Chapter Notes

● THE NORTH CENTRAL STATES AIA REGIONAL CONFERENCE will be held September 22 and 23 at the Pfister Hotel. The theme is "Color in Architecture."

According to the conference committee, headed by Karel Yasko, Wausau, "No period in American civilization has been so demanding in its use of color, and no period has seen such a lack of understanding of the tool. Architects are inadequately prepared to meet the demand in their structures; a fact attested to in a recent AIA survey of color in architectural education.



Karel Yasko

"It is particularly to close up the gap of understanding that the conference program was designed around the idea of a two-day color binge," Yasko said.

"Authorities in the field will develop the subject from fundamentals to completed application along with a round table of colorists, architects and representatives of the industry."

According to Yasko, Dr. Isay Balinkin, Professor of Experimental Physics, University of Cincinnati, will open the conference with "Color Fundamentals for Architects."

Howard Ketcham, New York color engineer and designer for industry, will present a paper on color and environment. Author of the recently published volume, *Color Planning for Business and Industry*, Ketcham will develop the idea of psychological uses of color.

The author of the Container Corporation of America's Color Harmony Manual, Walter Granville, will speak on "Color and Design in Architecture". President of the Inter-Society Color Council, Granville is also a fellow of the Optical Society of America.

Julian Garnsey, artist and colorist whose work is devoted exclusively to color in architecture will be the banquet speaker on "Color as Selected".

The Women's Architectural League has planned a full two-day program

for the ladies, including some of the seminars. In addition, the WAL will "man" the Hospitality Room especially designed and furnished for the conference.

"The sum total of this Regional Conference is expected to be a two-day color binge, aided and abetted by the exhibitors who will feature the color lines of their products," Yasko concluded.

The September WISCONSIN ARCHITECT will contain biographies of the speakers with pictures, as well as the convention program and exhibitor list.

● ROSS T. POTTER, son of Robert P. Potter, AIA, and Mrs. Potter, Wauwatosa, was graduated June 13 in the top ten per cent of his class from the College of Fine and Applied Arts, University of Illinois. Ross received the Kivett and Myers and McCallum Award for 1958 and 1959, an award established two years ago by the Kansas City, Missouri, firm of archi-



Robert and Ross Potter

tects and engineers. Myers of that firm was the author of the film "Architecture, USA".

Ross and his wife reside in Urbana where he plans in the fall to enter the Graduate School of Architecture, University of Illinois, and where he will be an instructor in architectural design.

● THE SUMMER MEETING of the membership will be held Wednesday, July 29, at 10:00 a.m. at the Milwaukee Inn. Among items on the agenda will be a report on legislation affecting architects (specifically Bill 498S) and the consideration of the recommended minimum fee schedule.

Continued on page 16

AIA-AGC Seminar Reports . . .

Irving Saltzstein, President General Contractors Association of Greater Milwaukee

Based upon the comments and reports received from those who attended the Contractor-Architect Conference sponsored by the Wisconsin Chapter, AIA, on May 15 at the Pfister Hotel, one can conclude that an informative, interesting and successful meeting was held.

The registration exceeded the anticipated attendance which no doubt was due to the arrangements and planning of an excellent program.

A review of the program is indicative of the number of major problems confronting the construction industry in its relationship with the architect and contractor.

The presentation of subjects through panel discussions afforded an opportunity to discuss mutual problems not only by the panel members but also by participation from the floor.

The discussions revealed that much progress has been made relative to an understanding of the Standard AIA Documents, Standard Specifications Outline, Sub-Contractor Relationship, Insurance Recommendations, and the

respective responsibilities of the architect, owner, and contractor.

Of particular interest in the discussions were such items as: Bidding Procedures, Shop Drawings, Alternates, Retained Percentages, Temporary Heat and Light, and the General Contract Method of Construction, all of which created an atmosphere portraying the mutual problems inherent in the industry.

It was apparent that there were areas of disagreement on a number of subjects which, no doubt, will be further studied and discussed by the respective Joint Cooperative AIA-AGC Committees.

In passing, special attention is directed to the magnitude of the construction industry; the greatest single productive activity in the nation. Consequently, the importance of our industry creates many problems which must be studied, discussed and solved on a mutual basis for the best interest of the public, the industry, and the economy of the nation.



Irving Saltzstein

I would like to take this opportunity to commend the committee for their excellent arrangements. I am sure the program was beneficial to the members of the General Contractors Association of Greater Milwaukee, as well as all other groups of the industry.

We are looking to a continuation of this program.

Joseph J. Weiler, AIA, Chairman Wisconsin Chapter Committee on Construction Industry Relations

On May 15th, the Wisconsin Chapter of the American Institute of Architects was host at a Joint Meeting of the Chapter and the two Associated General Contractors Organizations of the State. The meeting was held at the Pfister Hotel and consisted of three seminars with a luncheon program at which Mr. William Stanley Parker, F.A.I.A. Consultant on Contract Documents for the A.I.A., was the principal speaker. The meeting was sponsored by the Chapter Committee on Construction Industry Relations headed by Joseph J. Weiler, Chairman, with members Donald Bishop, Emil Klingler, John Waferling, Julius Sandstedt and Lloyd Knutsen.

At this meeting, the Joint A.I.A.-A.G.C. Committee presented a Standard Specification Outline developed by the Madison Chapter of the Construction Specifications Institute. The use of this outline by all Architects and Specification Writers was encouraged due to its benefits to the Architects and Contractors alike. To the Architects it gives a complete outline of the building processes including all items of general construction plus plumbing, heating and ventilation and electrical work. The use of this outline would produce a more coordinated specification for reference in the field.

For the Contractors, the use of this outline would help in the preparation of a proposal to the Owners. By its use, Contractors could refer the various subcontractors to Builder's Exchanges and each subcontractor could identify his material by a definite number in the specification.



Joseph J. Weiler

Any subcontractor could quickly review a specification and determine whether any of his material was in-

cluded in a particular job.

The use of this outline would further help define the limits of subcontractor's work on a project and with this in mind, Contractors would receive more definite proposals from subcontractors; this would facilitate the preparation of bids and the Owner would receive benefits and better bids due to a more coordinated outline of the work.

The seminar program consisted of three general sessions; one in the morning and two in the afternoon. At the morning session under the chairmanship of Mr. George Harker, Moderator, the definition of subcontractors was reviewed along with the procedure for listing of subcontractors in bids and in documents. Also, the problem of subdivided contracts versus one contract bid was discussed.

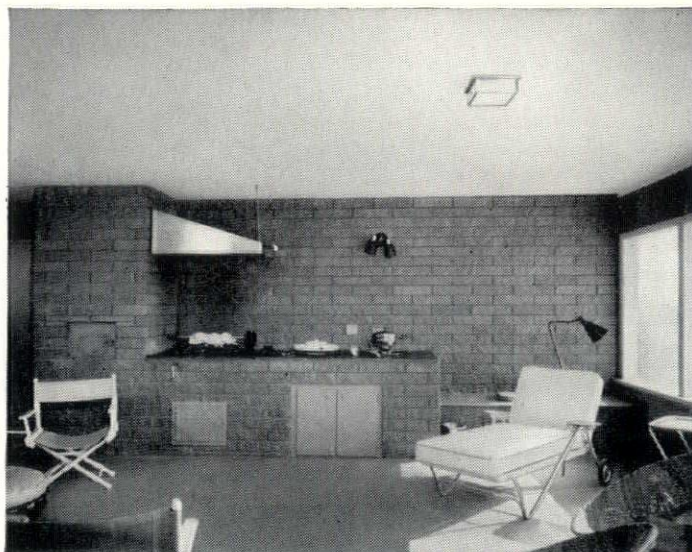
Concerning the types of contracts, it was concluded that if the public and the Architect, as the agent for the Owner, would use a one general contract procedure, the General Contractor would be able to give his best services in providing a complete building. It was understood that the customary practice of separating plumbing, heating and wiring is satisfactory, however, it may be to the best interest of the Owner to have the General Contractor handle these trades for a small percentage. On public work, the mechanical trades are obliged to be separated from the general work; this accepted practice was, in general, approved.

In the discussion concerning alternates and substitute materials, Emil Klingler described a system which was put into practice in his office some ten years ago on mechanical work. The discussion of the extension of this system to the general work brought forth many favorable comments. Mr. Klingler would be pleased to have requests for information concerning this system. The system was highly approved by the General Contractors, Mechanical Contractors and Architects alike, as it eliminates the questionable "or equal" clauses.

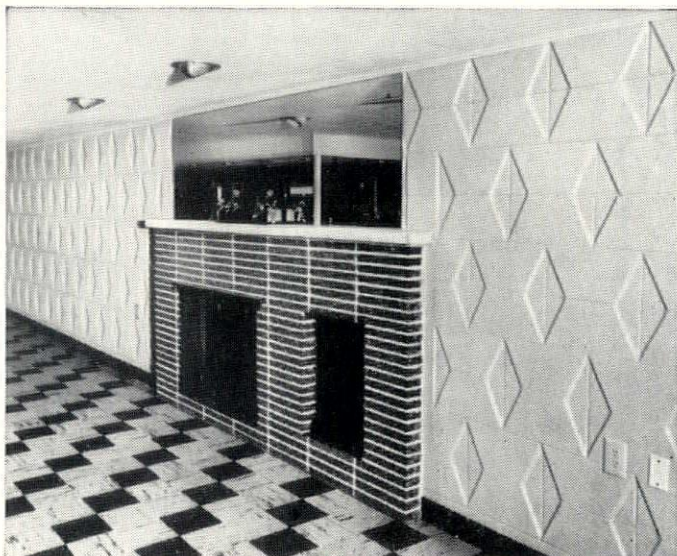
The listing of subcontractors brought about a lively discussion. For the Owner, the listing of subcontractors is extremely desirable on any job for in this way, there is some control over the quality of the work. Usually, a General Contractor performs only one quarter of the work under his direction. The other three quarters of the work is done by subcontractors who furnish



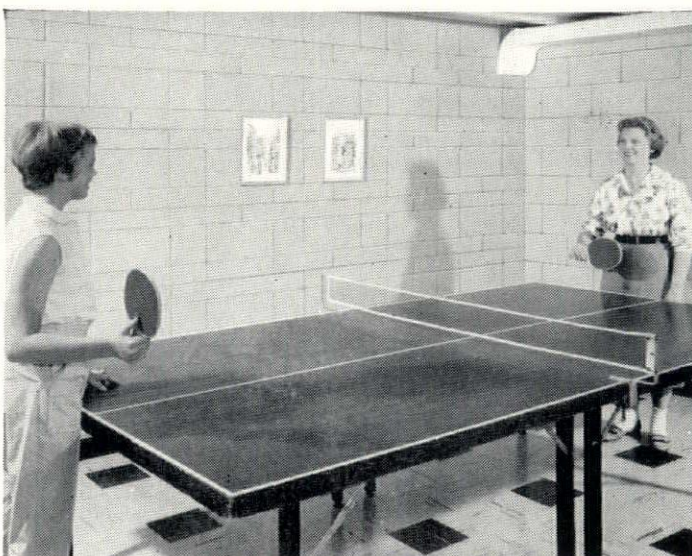
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material and labor to the job. The Owner has a right to know who the subcontractors will be.

The General Contractors brought out the following difficulties if listing of subcontractors is made mandatory in the submission of a bid.

a. A contractor does not necessarily know who his subcontractor will be until he has had time to analyze the sub bids. There is no time for this analysis before the submission of a bid to a potential Owner.

b. General Contractor's proposals usually include allowance for subcontract work and many times this allowance is based upon a compromise figure derived from several sub bids for a particular trade. This allowance does not necessarily involve a particular subcontractor.

c. If a subcontractor is listed in a bid, he could 'weasel' out of it if he is too low and subcontractors cannot afford to be bonded. Also, many sub bids are taken over the phone in haste for the preparation of bids and are not given in writing.

d. It is hoped that the use of the new Standard Specification Outline mentioned above, will help define the limits of subcontractor work and thus cut down misunderstandings between Contractors and subcontractors.

In summary, it was agreed in general that the listing of subcontractors should be mandatory as a record of a good job and the General Contractors stated that it would not be an imposition on them to submit to the Architect, a list of subcontractors two or three days after the bids were opened. This would save a terrific amount of work and grief on the part of those contractors who bid on the work and would not be considered in the preparation of a contract.

At the noon meeting, William Stanley Parker gave an excellent history of the development of the General Conditions of the Contract. This work was started sometime about 1908 or 1910 with the first copyright in 1915. Subsequent changes have been made and are being made as a result of changing conditions. The latest 1958 edition is now under revision again. Mr. Parker's review of the insurance clauses were extremely enlightening, particularly his comments concerning the misuse of the documents in this regard. His comments concerning the division of responsibility between contractors and Architects were helpful and made a fine transition to the first seminar meeting of the afternoon.

At this second meeting the problems concerning shop drawings, supervision and the rights to terminate work by

the Contractor or the Owner were thoroughly discussed. In connection with this discussion, Mr. Parker reviewed the Architect's Status as defined in the General Conditions of the Contract. In summary, the Architect's responsibility is the basis of his practice.

The second afternoon seminar moderated by H. F. Mielenz, covered special problems in building. The responsibility of the Architect in clearly defining that which was wanted and the Contractor's responsibility in executing it were thoroughly discussed. The problem of communication between the Architect and Contractor became paramount. The problems of partial occupancy of a building by the Owner before completion by the Contractor was also discussed as was the problem of temporary heat, light and power. This

latter discussion left many points to be discussed at future meetings.

In conclusion, Joseph Fagen, Manager of the A.G.C. Wisconsin Chapter, gave a review of present legislation as it affects the building industry. He did emphasize the interest which the public should have in the development of the laws under which we live.

The meeting terminated on a note of harmony and the opportunity given the Architects and Contractors to discuss in private and in public, many of their joint problems made the meeting a general success. It was the opinion of many that this type of meeting should be possible again in the future, for as Architects and Contractors, we serve the public. The public can be better served when Architects and Contractors pool their services through mutual understanding.

For Your Reading...

"Apartments and Dormitories" (Dodge, \$8.95) is an aggregation of articles and photographs published between 1950 and 1958 in the Architectural Record.

"Here are superior examples of recent multiple dwelling architecture, arranged in four groups: community-scale projects, large projects, small projects and campus dormitories and apartments," declares the jacket blurb.

Frankly, one's first, strong reaction is that if the works here—with a few notable exceptions—are superior, then the average for *this* country's multiple dwelling projects must be appallingly low.

And this, of course, raises disturbing questions outside the realm of book reviewing: Why? Who's responsible? And, what is being done about it?

Closer study of "Apartments and Dormitories" suggests some answers, albeit not very satisfying ones.

For example, the first section of the book, on housing patterns, expenditures, social factors, etc., notes that:

A long time downward trend in the percentage of spending going on for housing was not stopped until the end of World War II.

Housing design is "hedged in, surrounded, and overwhelmed by a super-bureaucracy which would reduce everything to formula and put it on a punch card.

There has been and is a lack of city planning.

There also has been general acceptance of the idea that the best way to house and serve every family is in an

individual residence.

Then the book turns to costs (they CAN be cut), structure (partitions can function as columns), and a discussion of individual apartment heating for multi-story housing.

This leads to community scale projects—Vallingby, the new section of Stockholm; Guarujá, a new community in Brazil; neighborhood units in Rio de Janeiro, and Park Forest, Ill.

The contrast between the foreign and American results is striking—and far from comforting to one who, prior to Sputnik, had been impressed with the idea that Americans excelled in all ways.

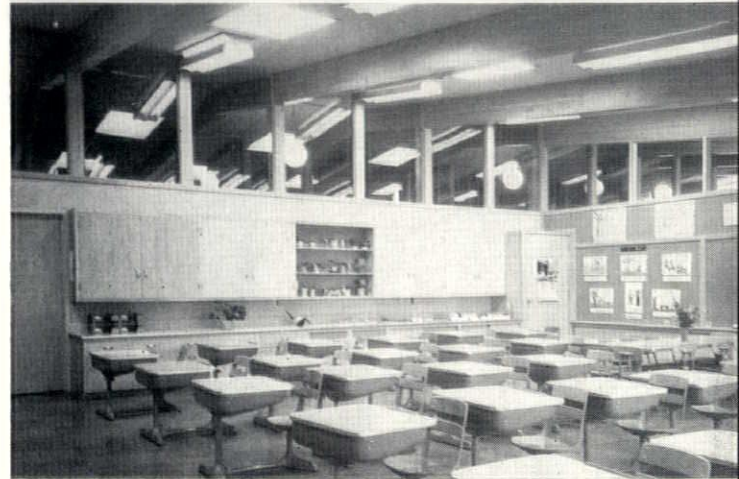
Large apartment projects come next—and here there are indications that American architects can produce works with feeling and character if ever they supplant their preoccupation with plan, structure and mechanisms with concern for the emotional and spiritual needs of those who will live in their buildings.

Smaller buildings—down to a two-family house—show the greatest variety of design, again raising the question, "Why?" Are the residents of these structures basically any different from those who will live in the community size projects? Are the owners that much different? Or, is it the architects?

About a fourth of the book, the final one, is devoted to campus dormitories and apartments. This section should be of particular interest to all architects in view of current predictions of college and university coming needs.



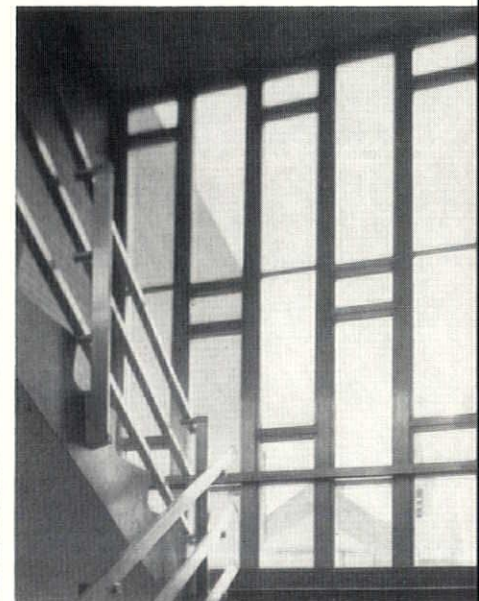
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Big Cedar Studios photo





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MILWAUKEE'S NEW DIMENSION

by Rolf Irgens

Last fall the Milwaukee Land Commission Staff requested aid and support from the Civic Design Committee of the Milwaukee Division, Wisconsin Chapter, AIA, in creating a new ordinance concerning height variations in the one hundred and twenty five foot height district. Since our initial meeting with members of the Land Commission Staff a new ordinance acceptable to all concerned has become law. It was passed in March, 1959.

Limiting Factors in Designing an Ordinance

In initial discussions of what a zoning ordinance should be, the question arose as to what kind of character a city should have. What should the general organizational guide be? Paris is a city with many streets of buildings with a constant or similar cornice height. This achieves a sense of overall order; the individual building becomes a subjugated part of a more important whole or block facade. These anonymous blocks of regularity form a pleasing and orderly background or contrast to major public or church buildings. The same pattern is true of many European cities—a sense of restraint and order seems to bind buildings together.

Many American cities seem to typify a quite different philosophy. Buildings struggle with each other for dominance. Heights, bulks, forms, etc. of buildings on adjacent lots often bear little relation to one another. Complexes of individual building masses can achieve a very satisfying result as with the complimentary structures of Rockefeller Center.

Certain cities of Holland were among the first modern day centers to use precise planning as a tool in rebuilding and expansion. Precise planning has several advantages: an ultimate goal of overall controlled and related structures and uses can be realized; a city can develop with a plan rather than haphazardly; the public is not subjected to the whim of the promoter. Precise planning is a tool which cannot be used in our cities unless State Legislation is passed approving it. However a form of control can be exercised by the individual through deed restriction.

Our conclusion as to the limiting factors in a practical approach to a zoning ordinance included the following: the historic American approach to building as with many other things is individualistic; the present city will not lend itself to controlled, uniform heights of structure and not necessarily desirably so; an attempt to architecturally relate structures on adjoining properties by ordinance beyond offering certain incentives for desirable individual building features would not be practical. The final responsibility of the success of the relation of buildings on separate lots must still be that of individual architect of a project.

The New Ordinance

The text of the new ordinance is as follows:

Section 16-12.5. Height Variations in One Hundred and Twenty-five Foot Districts.

A. In a one hundred and twenty-five (125) foot height district no residential buildings and accessory structures shall be erected to a height in excess of one hundred and twenty-five (125) feet.

B. In a one hundred and twenty-five (125) foot height district a non-residential building may be erected to a height in excess of one hundred and twenty-five (125) feet; however, no nonresidential building and accessory structures shall be erected with a basic floor area ratio in excess of eight (8.0) and in excess of the following regulations which permit additional floor space as a premium:

1. Where a setback is provided for a nonresidential building or accessory structures, a premium equal in amount to the setback area multiplied by seven (7.0) will be permitted.

2. Where a plaza is provided for a nonresidential building or accessory structures a premium equal in amount to the area of the plaza multiplied by seven (7.0) will be permitted. A plaza as herein defined is an open unoccupied space at the ground level between the front or side street line and any face of the building or face extended to a property line except the area of the setback or sideyard.

3. Where a sideyard of twenty (20) feet or more is provided for a nonresidential building or accessory structures, a premium equal in amount to the area of the sideyard multiplied by seven (7.0) will be permitted.

4. Where a rear yard of twenty (20) feet or more is provided for a nonresidential building or accessory structures a premium equal in amount to the area of the rear yard multiplied by five (5.0) will be permitted.

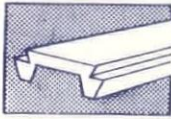
5. Where an arcade is provided for any nonresidential building or accessory building or accessory structures a premium equal in amount to the area of the arcade multiplied by three (3.0) will be permitted.

The basic floor area ratio of a building and accessory structures on any lot is the floor area, at and above the established grade of the lowest abutting street, of the building and accessory structures of the lot divided by the area of the lot. The floor area of a building or buildings is the sum of the gross horizontal areas of the several floors bounded by the outside faces of all exterior walls. Only that portion of an exterior court open to a street, alley, or yard twenty (20) feet or more in width, for its full width shall be excluded from the floor area. The area of courts at each floor not opening upon a street, alley or yard shall be considered as a part of the floor area of the buildings. The area within any nonresidential building used for off-street loading and

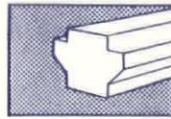
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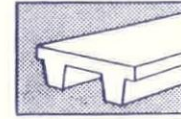
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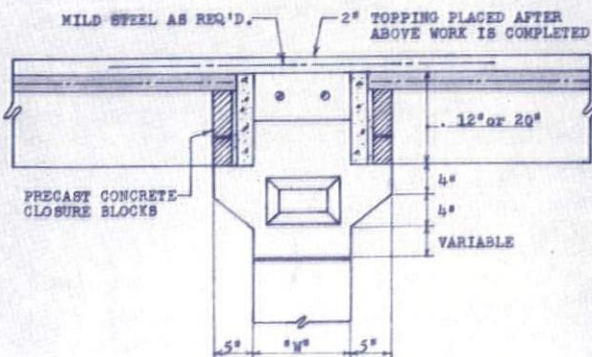
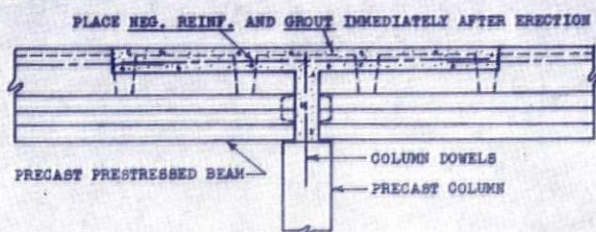
Girders

Columns

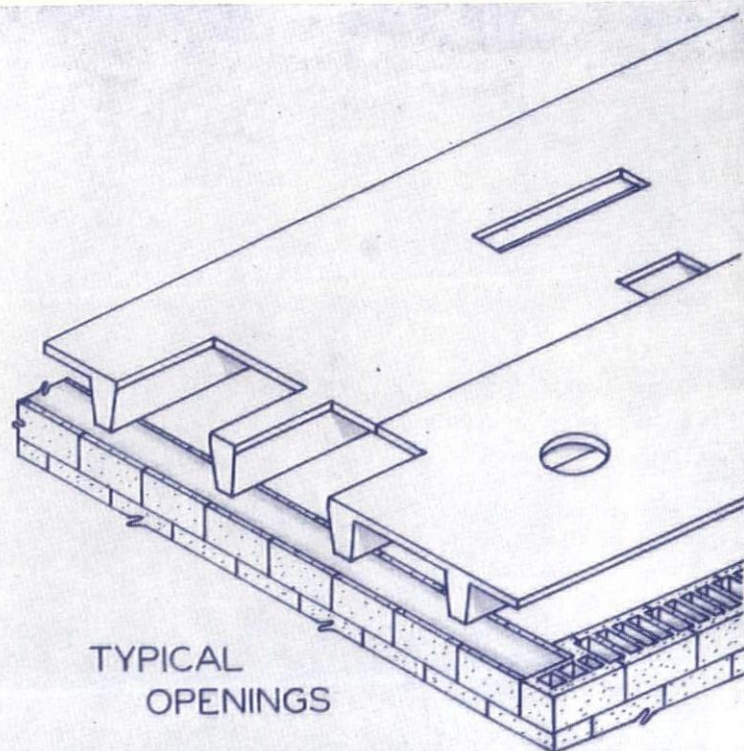
Piles

Custom or standard designs

TYPICAL CONSTRUCTION DETAILS



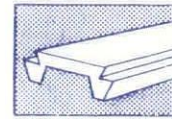
CONTINUITY DETAIL



TYPICAL
OPENINGS

CONCRETE R

Plant location: Waukesha, Wisconsin

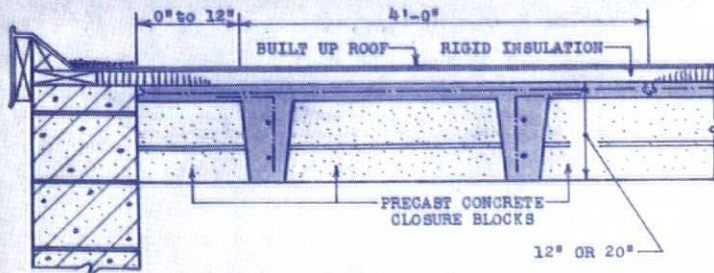


channel slabs

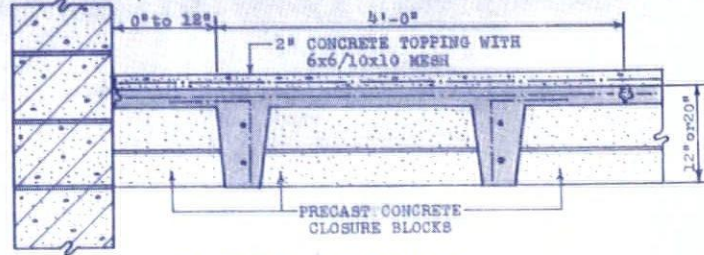


beams, girders

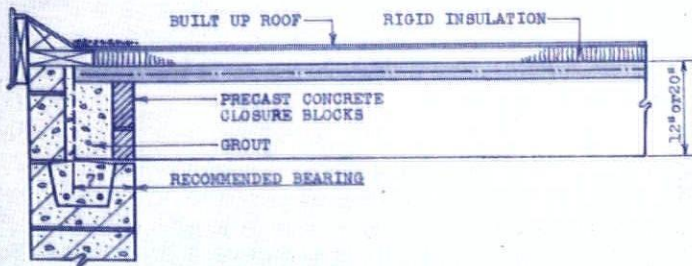
TYPICAL CONSTRUCTION



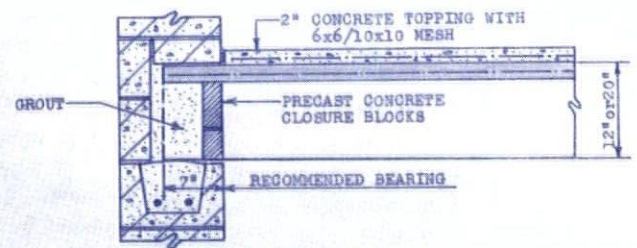
ROOF FRAMING
SLABS PARALLEL TO EXTERIOR WALL



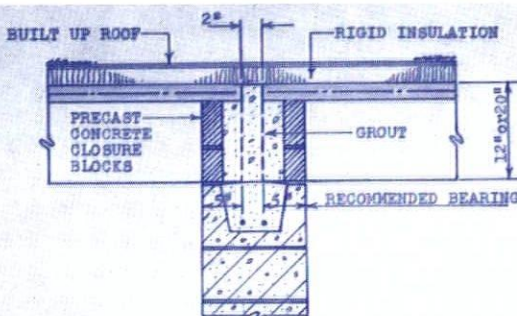
FLOOR FRAMING
SLABS PARALLEL TO EXTERIOR WALL



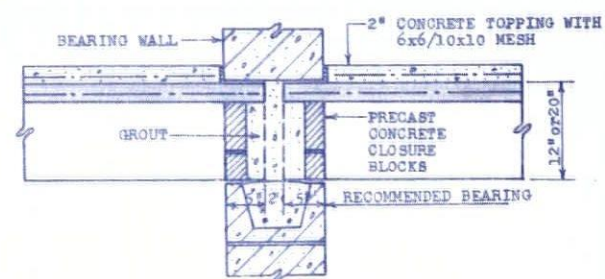
ROOF FRAMING
SLABS BEARING ON EXTERIOR WALL



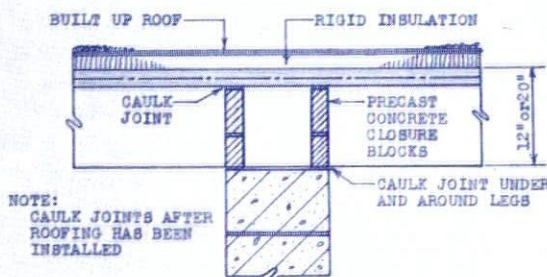
FLOOR FRAMING
SLABS BEARING ON EXTERIOR WALL



ROOF FRAMING
SLABS BEARING ON INTERIOR WALL

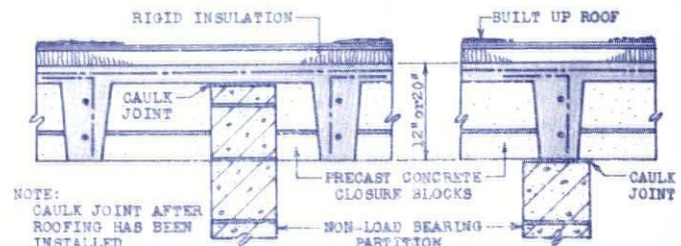


FLOOR FRAMING
SLABS WITH BEARING WALL ABOVE



NOTE:
CAULK JOINTS AFTER
ROOFING HAS BEEN
INSTALLED

ROOF FRAMING
NON-BEARING PARTITION



NOTE:
CAULK JOINT AFTER
ROOFING HAS BEEN
INSTALLED

ROOF FRAMING
NON-BEARING PARTITION

SEARCH, INC.

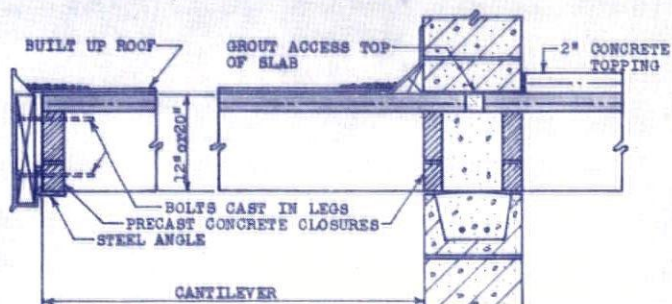
O. Box 491 — Phone: 5Spring 1-1510

es, columns

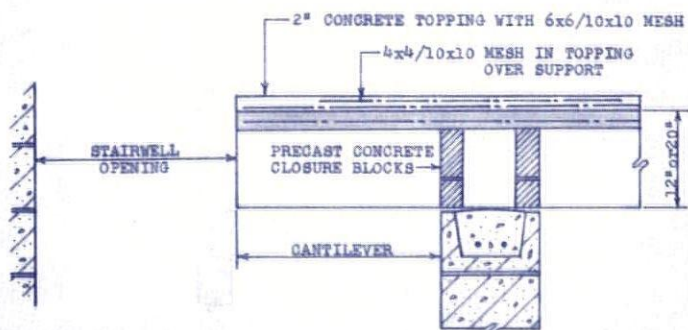


"double-tee" slabs

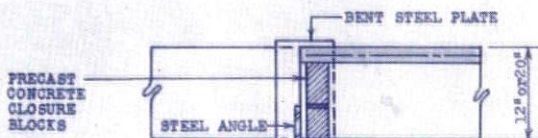
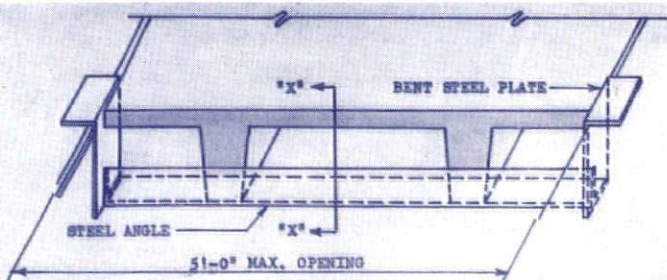
SECTION DETAILS



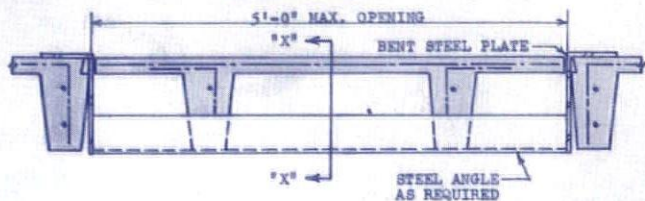
DOUBLE TEE SLAB CANOPY



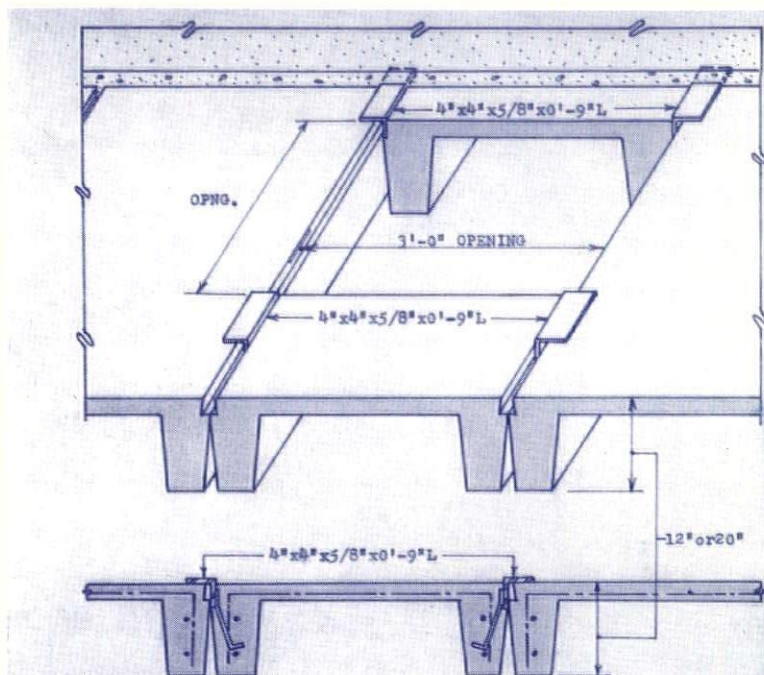
FLOOR FRAMING CANTL. SLABS



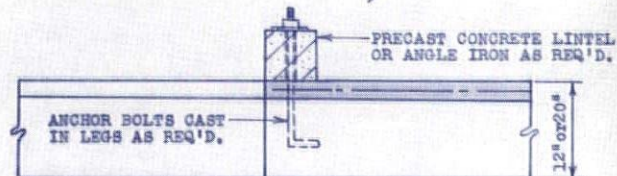
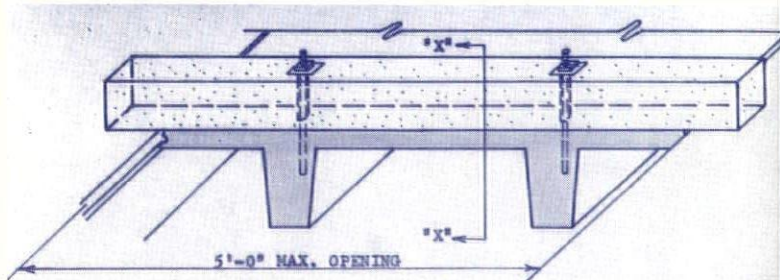
SECTION "X"-"X"



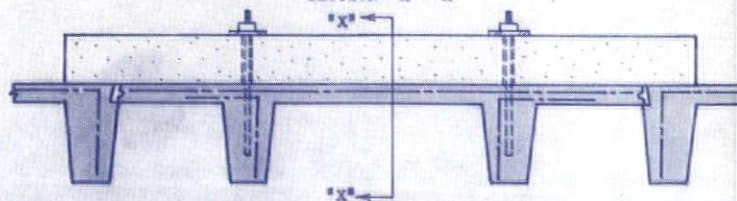
HEADER DETAIL
ONE DOUBLE TEE WIDTH



HEADER DETAIL
ONE CHANNEL WIDTH



SECTION "X"-"X"



ALTERNATE HEADER DETAIL
ONE DOUBLE TEE WIDTH

SPECIFICATION GUIDE FOR PRESTRESSED CONCRETE MEMBERS

FABRICATION: Prestressed members — see structural drawings for size — shall be fabricated and erected by CONCRETE RESEARCH, INC., Hwy. JJ. Waukesha, Wisconsin.

- | | |
|------------------------------|---|
| Prestressing elements | <ul style="list-style-type: none"> - - - Shall consist of seven wire strands, and shall be made of stress relieved uncoated wire from which the drawing film has been removed. - - - Wires shall have a minimum ultimate tensile strength of 250,000 p.s.i. - - - Strands shall be secured at an initial tension of 70% of the ultimate tensile strength of the wire. |
| Forms | <ul style="list-style-type: none"> - - - Prestressed members shall be cast in steel forms that are true to line and plane. - - - All openings 6" diameter or larger shall be formed by Concrete Research, Inc. at the time of casting, provided the trades requiring said openings will furnish all pertinent dimensions and be responsible for same. (Above reference to openings must be placed in the specifications of all other trades.) |
| Strand arrangement | <ul style="list-style-type: none"> - - - Before placing concrete, the strands shall be tensioned as described above and then deflected at the point of maximum moment. - - - Strands shall be 2" on centers at the ends of the sections. - - - Standard members designed in accordance with A.C.I. — A.S.C.E. Joint Committee 323 Report, Recommendations for Prestressed Concrete. |
| Concrete | <ul style="list-style-type: none"> - - - All concrete shall have a minimum compressive strength of 5000 p.s.i. at 28 days. - - - Concrete shall have a maximum slump of 2 1/2" and prestress shall not be transferred until the compressive strength is 3500 p.s.i. as determined by A.S.T.M. (C 31-55) specifications. - - - Concrete shall be thoroughly vibrated so that no voids are present that will impair the proper behavior of the prestressed member. |
| Curing | <ul style="list-style-type: none"> - - - All prestressed members shall be cured by means of radiant heat or live steam. - - - Members shall not be subjected to high temperature curing until after the initial set has taken place. |
| Shop drawings | <ul style="list-style-type: none"> - - - Concrete Research, Inc. shall furnish 5 sets of shop drawings to the architect and/or engineer for approval before beginning fabrication. |
| Erection | <ul style="list-style-type: none"> - - - The general contractor shall have ready, at the time of delivery, proper bearing surfaces to receive the prestressed members and shall allow adequate room for the maneuverability of the erecting contractors crane, trucks and equipment. - - - All members shall be handled by means of inserts placed reasonably close to the final support points and shall not be handled such as to reverse the stresses in the member. - - - Where required, members shall be secured by temporary bracing and ties to prevent displacement until permanent connections are made and members grouted. |
| Mild steel | <ul style="list-style-type: none"> - - - As required, shall be placed by the general contractor in all the site cast concrete. (See structural drawings for size and location.) |
| Floor construction | <ul style="list-style-type: none"> - - - The top surface shall be broom clean and thoroughly wet down immediately before the topping slab is cast. - - - The topping shall be cast to the thickness shown on the drawings and shall be reinforced with 6x6/10-10 welded wire mesh throughout and with supplementary steel bars as shown on the drawings. - - - Topping concrete shall have a minimum compressive strength of 3000 p.s.i. at 28 days. |
| Openings | <ul style="list-style-type: none"> - - - Shall not be cut on the jobsite without the consent of the architect and/or engineer and under no circumstances shall the legs or prestress elements be cut. |

CONCRETE RESEARCH, INC.

Plant location: Waukesha, Wisconsin — P.O. Box 491 — Phone: 5Spring 1-1510

unloading shall not be considered as a part of the floor area of the building.

A premium is the floor area permitted in addition to that allowed under the basic floor area.

This is intended to be the first in a series of code changes to stimulate building in the Milwaukee area consistent with good city planning techniques and architectural solutions. Residential buildings are to retain a height limit of 125', but the height of non-residential buildings is no longer to be restricted. A system of giving premiums in the form of additional allowable floor space has been devised to encourage certain results which should be beneficial to the City and the public in general.

Interpretation of New Ordinance

In the 125 Feet Height Districts the new Ordinance will basically allow an eight story building without off-sets to be constructed upon a lot covering the entire lot area at grade level. As an incentive for a property owner to leave more open space at grade level, premium floor areas can be added to the basic allowable floor area (as determined by the 8 to 1 ratio) by the utilization of any or all of the five defined conditions under which premiums are available. The terms setback, sideyard and rear yard have been clearly defined in the zoning ordinance for many years. Plaza and arcade had not been so defined. A plaza is open space at grade between a building face opposite a street but behind the setback line (as determined by the building face closest to a street) and the setback line. An arcade is generally intended to be a sheltered pedestrian way accessible to the public at all times which would provide openness at grade level. Sideyards of 20 feet or greater qualify as premium area. Twenty feet was considered as a minimum desirable figure if window walls are to fall along sideyards and that anything narrower might be questionable open space. Setback, plaza, and qualifying sideyard space have a premium ratio of seven each because it was felt that they are of equal importance. If, for instance, setback had a greater value than the other two then the tendency would be for all new structures to take advantage of the high setback premium which would have the end result of buildings being built tight to the side and rear lot lines with all the open space in front. The result—a wider canyon along the street, but not necessarily pleasing. By equalizing the premium value of setbacks, plaza, and qualifying sideyard a freedom is given to the designer. No longer is there an impetus to street facade architecture, but with the equalization of these premium values he has freedom of three dimensional or mass expression rather than two dimensional plane (facade) expression. Why should the rear yard premium be five? A premium for rear yard seemed desirable to discourage all structures from being built tight to rear lot lines with a knife cut of alley dividing a block. Yet the value of open space to the rear of a building did not seem equivalent to that of the areas commanding a higher premium value. A desired result of both sideyard and rearyard premiums is to build up the importance of these building elevations so as to discourage the common brick side and rear building elevations. Buildings should be designed three dimensionally.

The encouragement of open space sheltered from the sky in the form of open arcades seemed a desirable thing. The premium value allotted them is three. The arcade premium is the only one which requires open

Because of current interest among architects and the general public in downtown building problems, the WISCONSIN ARCHITECT requested the Joint Civic Design and Urban Renewal Committee of the Milwaukee Division, Wisconsin Chapter, AIA, to report on its recent activities in this field.

Rolf Irgens, the writer, is a member of that committee under the co-chairmanship of Harry Bogner and Clinton Machon. Also on the committee are: Richard Blake, Charles Haeuser, Jack Kloppenburg, Harvey Koehnen, Kenneth Kurtz, Gregory Lefebvre, Maynard Meyer, Roland Middleton, Jordan Miller, Richard W. E. Perrin, Wlad Prokopowicz, Leroy Riegel, Howard E. Schroeder, Peter Seidel, Abe Tannenbaum, George Waltz.

A special sub-committee appointed to study the proposed ordinances included, besides Irgens, Richard Blake, Kenneth Kurtz, and Peter Seidel.



Rolf Irgens

space at grade but does not require open space above its ground area. The use of open arcades has great potential architecturally and the inclusion of a premium for arcades should stimulate the use of them.

The statement of "only that portion of an exterior court open to a street, alley, or yard twenty feet or more in width shall be excluded from the floor area of a building" again is based on the premise that 20 feet is a minimum desirable distance between building faces that can qualify as open area. Then it must be determined if the resulting open space will receive a premium value. A court greater than twenty feet in width opening on a sideyard would qualify for relocation of space but not for premium value. Any interior court and exterior courts of less than 20 feet in width must be figured as building area for each floor of the building, for they do not add to openness desirable to the passing public.

Areas required for off-street loading are not considered as part of the floor area of the building. This seems reasonable since a separate ordinance sets up the requirement for this function and there seems no reason to penalize basic building area for a required function. It should be noted that no premium value is given for any openness above these loading areas but if left open the area of eight stories of floor space equivalent to this area can be relocated (stacked on top) of the building.

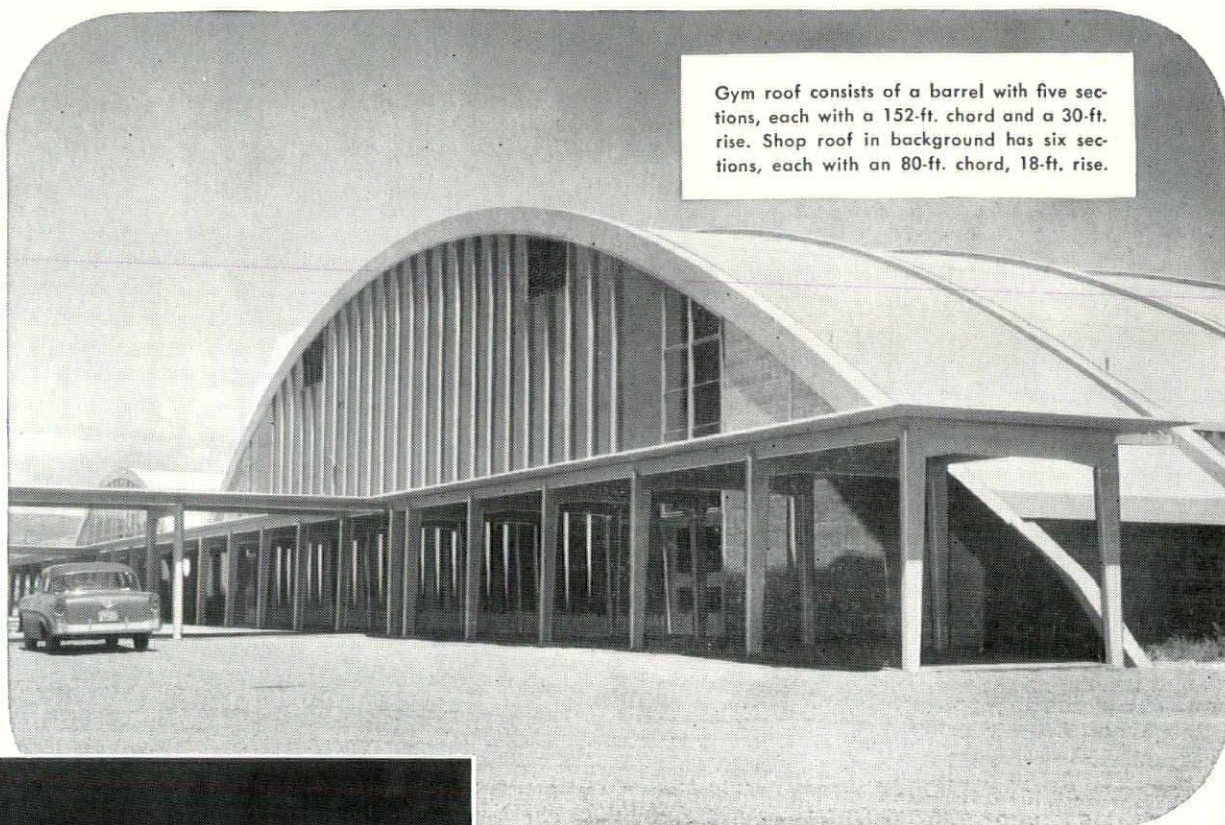
Example Computations Under New Ordinance

As an example of what might be accomplished under the "new ordinance" assume that a property owner has an entire city block and builds upon only 50 per cent of the land at grade (this might be a practical minimum). He may utilize the full block below grade without affecting the ordinance. Also assume that the remaining 50 per cent of the property qualifies for either setback or plaza premiums (which have a premium value of 7 each) and that one-fifth of the building has an arcade at grade (10 per cent of the property qualifies for an arcade premium of three).

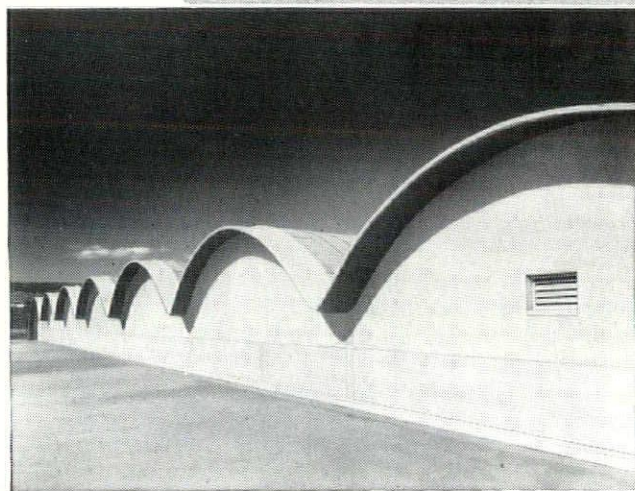
Basic ratio	— 8.0
Setback and plaza premiums—50% \times 7	— 3.5
Arcade premium—10% \times 3	— 0.3
Allowable ratio	— 11.8

This would allow 2 (11.8) plus 0.20 (1) stories or a

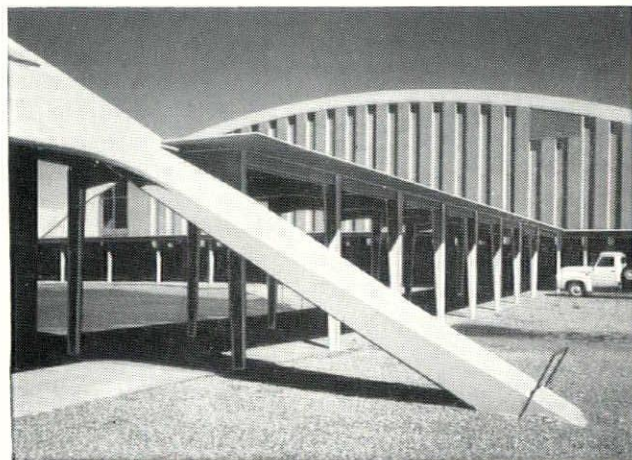
Continued on page 19



Gym roof consists of a barrel with five sections, each with a 152-ft. chord and a 30-ft. rise. Shop roof in background has six sections, each with an 80-ft. chord, 18-ft. rise.



The roof of the multi-purpose building, above, consists of seven 60-ft.-long barrels, each with a 32-ft. chord and 23-ft. radius. Photo below shows the type of covered walks (pre-cast concrete bents) used on the campus. The architect was Maloney & Whitney, Yakima, Wash. The structural engineer was Worthington & Skilling, Seattle. The contractor was Wall, Bartram & Sanford, Wood Village, Troutdale, Oregon.



CONCRETE SHELL ROOFS answer school's need for unobstructed floor areas

The Ellensburg High School, Ellensburg, Wash., demonstrates the versatility of concrete shell roofs for educational structures. Large unobstructed floor areas were required for three types of buildings: the gymnasium, the shop building and a multi-purpose building. Concrete barrel shell roofs were chosen for all three.

Shell roof construction provided the unobstructed floor area required. It was economical to build and opened unusual design opportunities to the architects.

More and more architects and engineers are turning to concrete shell roofs for structures requiring open floor areas. Roofs with spans up to 300 feet and more can be built without any interior columns. In addition to school buildings such as shown here, concrete shell roofs are ideal for auditoriums, exhibition pavilions, hangars, field houses, train sheds, repair shops for large equipment, garages and warehouses.

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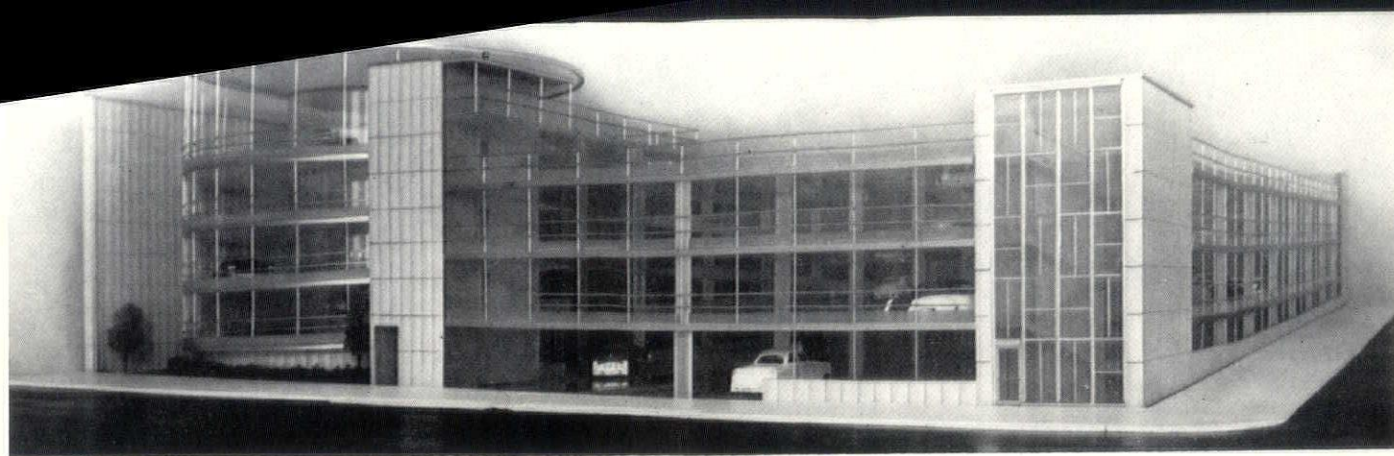


photo by Big Cedar Studios

A PARKING ANGLE

by Gregory G. Lefebvre, AIA

With the American scene becoming more and more dominated by the automobile, it is inevitable that the necessary downtown parking structures of



Gregory G. Lefebvre

the future can and should contribute architecturally to the central city.

In Milwaukee, a city in which the mayor and his staff are concerned with the importance of beautiful as well as economically sound public buildings, the job of Lefebvre-Wiggins & Associates of designing the downtown city parking structure pictured here was considerably simplified.

This parking pavilion is an open-type exterior (aluminum posts and rails) structure giving an appearance to the outer surfaces or elevations which will attract people to the pavilion. This also provides an harmonious combination of construction materials to furnish a new, modern structure which is appropriate to the nearby new City Hall annex and adjacent business and cultural areas of the city.

Generally the planning for a parking pavilion requires several considerations: (1) What is the parking demand, (2) What type operation is to be used—self-parking or attendant parking, (3) What land is to be used. (The latter affects the type of operation and structure.)

Specifically, the capacity for this parking pavilion is at least 550 cars; the layout and facilities are for self-parking; the structure will be a sloping clear-span concrete floor structure offering rearrangement possibilities and natural ventilation. The site is at North Milwaukee and East Wells Street.

The site was carefully studied and complete investigations were made of all possible designs which could be adapted. Other parking structures were

inspected and reference was made to library publications, American Institute of Steel Construction and Portland Cement Association reports. Level, bi-level, tri-level, sloping floor, straight ramp, curved ramp structures were all considered and sketched. The difference of elevation between Milwaukee Street on the east and Broadway on the west, the shape, and the dimensions made the site ideal for a sloping floor type structure.

A spiral exit ramp, a distinguishing design solution, provides rapid discharge and one-way traffic. The plan had to provide easy traffic flow, furnish maximum speed and safety, induce the desire for self-parking, and provide maximum size and number of parking stalls. Entrances and exits are on the two north-south thru-traffic streets (Milwaukee Street and North Broadway) with the primary entrance and exit being on the widest and least congested street (North Broadway). Four entrance lanes and one exit lane are available for morning incoming parkers, and three exit lanes and one entrance lane are available for outgoing cars in the evening.

There is a basement level and four above-street levels, and the structure is designed for the later addition of two levels. It is 180 feet by 254 feet. There are three east-west sloping floors—two in one plane and one in another plane.

The pavilion provides aisles 20 feet in width and stalls which are 8 feet 4 inches to 9 feet 4 inches wide by 20 feet long. The maximum floor and parking slope is 2.9 per cent and the circular exit ramp slope is 8.2 per cent. The first floor provides ample receiving and delivery facilities, and a reservoir capacity as well as service facilities of office, waiting rooms, rest rooms and storage rooms. Good floor drainage is an important provision. Complete lighting and signs and direction electric systems are incorporated. Automatic heating is provided for office and wait-

ing rooms and radiant floor slab snow and ice removal coils for entrances, exits and ramps. Two automatic elevators will serve parkers at opposite ends of the pavilion and enclosed stairways at opposite corners provide optimum conditions for pedestrian entrance and exit.

Since they are a new type structure, parking pavilion requirements are unique for building codes. Wisconsin Industrial Commission codes do not at this time specifically cover the requirements for this type of building. Meetings were held with City and Industrial Commission Building Code officials and preliminary plans were based on the following considerations:

1. Floor to floor height is ten feet.
2. Floor load capacity is 80 pounds per square foot for the first floor and 50 pounds per square foot for all other floors except the top which is 80 pounds per square foot.
3. Fireproofing is required for structural steel columns and beams.
4. Exits are furnished by means of corner stairways and driving ramps.

The possibility of a demountable roof for weather protection over the top level is being considered. A roof over the top floor would save the requirement for an 80 pound per square foot live loading (50 pounds per square foot is then satisfactory) and would save an asphalt weather surfacing. Such a roof also would do away with snow removal problems and permit the use of the area in all weather. Parkers prefer to park in covered areas on snowy winter or sunny summer days.

A finely detailed scale model constructed by Gregor Owen gives a more accurate picture of this parking structure. It is displayed in the Milwaukee City Hall.

Gilbert Clegg, George Ashton, and Henry Wantoch of the City of Milwaukee staff working with Lloyd Knapp, Commissioner of Public Works, co-operated in every way with the architects.

Chapter from page 3

● NATHANIAL SAMPLE, has been appointed chairman of the Community Development Committee of the Wisconsin Chapter, AIA. Sample's appointment came after the resignation of Charles Haeuser who has resigned as chairman but will continue to serve on the Committee.

● DONALD GUTZMANN has begun his own architectural practice from offices at 1744 North Farwell, Milwaukee.

● THOMAS J. BAUER, who is on the staff of Weiler and Strang and Associates, Madison, has been enrolled in the "architect in training" program.

● THE CONSTRUCTION SPECIFICATION INSTITUTE, Milwaukee Chapter, has announced new officers, two of which are members of the Wisconsin Chapter, AIA. They are Art Reddemann, President, and Lester Seubert, First Vice President, both AIA. Beginning with the June issue, copies of the Milwaukee Chapter CSI monthly publication, "Or Equal" will be

sent to all Corporate members of the Wisconsin Chapter, AIA.

● ARCHITECTURE: MAN'S SPACE exhibit concluded a highly successful showing at the Milwaukee Art Center and has begun tour. Numerous requests were received for the exhibit—nine from out of the state. It may be displayed at the University of Wisconsin Union, Madison, this summer and will be at Lawrence College, Appleton, during the month of October. (See May, 1959, Wisconsin Architect for story about this Milwaukee Division project).

when deadlines count...

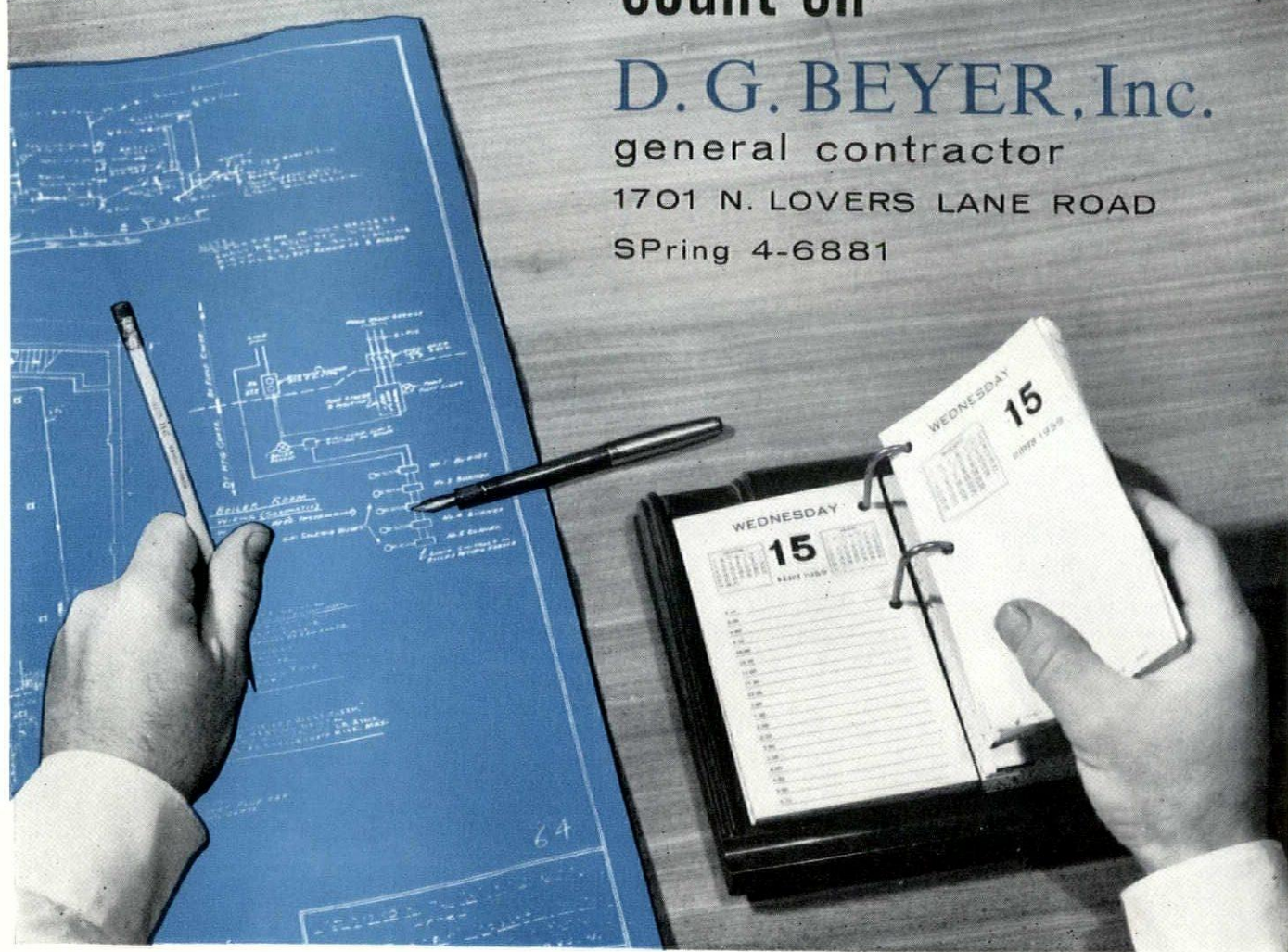
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Welcome Aboard

The Wisconsin Chapter, AIA, welcomes the following who recently have been accepted or advanced in membership:

ROBERT C. BERWIG, who has advanced from Junior Associate to As-

sociate member, is employed by the firm of Sauter and Seaborne, Appleton. Berwig was born in Milwaukee in 1930 and attended Lawrence College. He served four years in the United States Navy. His hobbies are golf and model-making



LILLIAN SCOTT LEENHOUTS, a new Corporate member, joins her husband, Willis, as a member of the AIA. The Leenhouts have practiced architecture together since 1945 when they formed their own partnership. Mrs. Leenhouts attended South Milwaukee High School and was graduated from the University of Michigan with a Bachelor of Architecture degree in 1936. She also attended Layton Art School where she received awards for meritorious work in her first and third years. Her hobbies are photography, sketching and tennis.



THOMAS W. WITTENWYLER, a new Junior Associate member, was born in Milwaukee in 1938. He is serving his apprenticeship in the office of John F. Bruecker, AIA, Milwaukee, for the Milwaukee Industrial Commission. Wittenwyler is a member of the Army Reserve. His hobbies are traveling, fishing, hunting, and reading.



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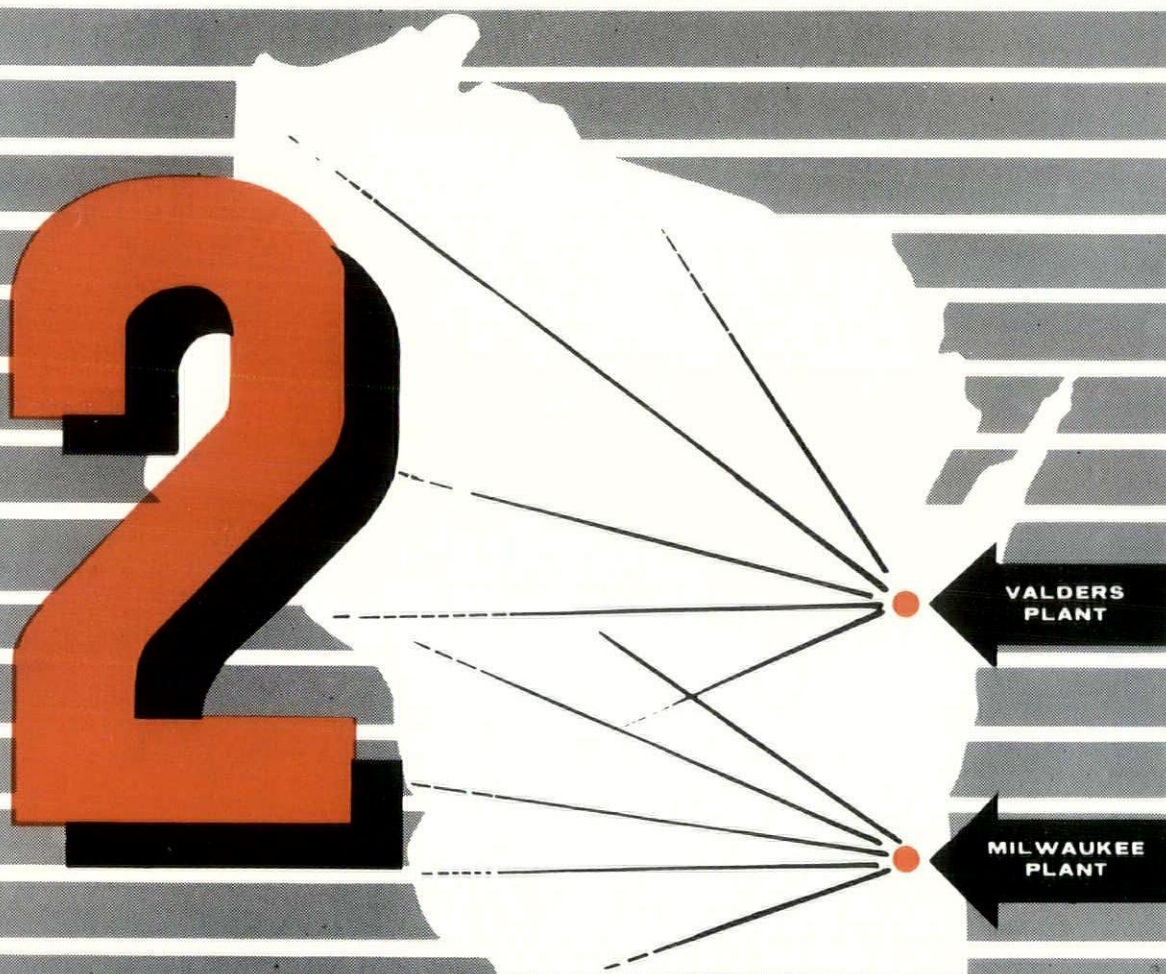
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Plots, Plats and Plans | . . . plostoponed

Pronouncement that planting pressures precluded completion of "Plots, Plats, and Plans", presented in our two previous publications, was promulgated by penman Robert C. Greaves. He promises to proceed promptly with the penultimate proclamation of the precepts of his profession.

Milwaukee's

from page 13

total of 23.8 stories of 50 per cent of the lot area each. More stories could be realized by the reduction of individual floor areas above the first floor. The premium system has a limiting maximum. If the property is left without a structure, one could assume a 100 per cent setback premium of 7 plus the basic 8 or a limiting maximum of 15. Obviously this could never be attained.

The New and the Old

How does the "new ordinance" differ from the "previous ordinance?" The original governing state law allowed structures to be built up to 125 feet in height. This was considered as high as any structure need be plus making the State Capitol Building the highest building in the state of Wisconsin. The Milwaukee Charter of 1934 allowed structures rising to a height of 250 feet maximum but the volume (bulk) of any structure greater than 125 feet could not exceed that of a building block 125 feet high covering the entire lot area from grade to roof.

The preceding ordinance had a bulk or volume restriction rather than a floor area restriction as contained in the new ordinance. We considered arguments pro and con with regard to this issue. Restricting by bulk (volume) has the advantage of being able to accurately predetermine the maximum bulk or amount of a mass which could be built on a particular piece of property. Presumably part of the beauty of a city comes from the juxtaposition of related masses so should not buildings be restricted by mass? However, with a bulk restriction there would be a tendency to jamb as many floors as possible into any particular height of structure. This is one of the sicknesses of some of our existing zoning laws. In trying to get as many floors as possible into a height limitation certain structural systems are utilized which might not be as competitive as others if these artificial factors did not exist. Floor to floor heights should be determined by the best utilization of space, proportion, and human need rather than by artificial factors which might make economics rather than good design govern floor to floor heights of buildings. Thus we felt that a floor area restriction was better than a bulk restriction even though two buildings with identical floor areas might differ considerably in volume.

The "old ordinance" allowed a solid building block 125 feet high. With 12.5 feet average floor to floor

heights, we would have a ten story building. An eleven story building would have 11.4 feet average floor to floor heights, a twelve story building would be 10.4 feet; a thirteen story building would be 9.6 feet; etc. Fourteen stories would be an absolute maximum in a 125 feet height. Thus converting what could be done to a floor area—land area ratio, the maximum ratio would have been fourteen. Compare this with the basic ratio in the "new ordinance" which is eight. It was felt that in no case should a small property holder go much over this number of stories, and since it would be difficult for him to take advantage of premiums due to the small size of his property, he would generally be restricted to the basic ratio of eight. It would be well to note the average floor area ratio in our "downtown" business district is about 3.5 presently. Particular buildings which might be of interest have the following approximate ratios: Wells Building, Milwaukee, 14; Penn Center, Philadelphia, 10; Seagrams Building, New York, 13; Leverhouse, New York, 6.

to be continued

Unit Structures to Work with European Laminator

Two of the world's foremost timber laminating companies have joined in an agreement which grants to each firm exclusive rights to the other's manufacturing processes, machinery and equipment.

The announcement was made recently by M. C. Hanisch, Jr., president of Unit Structures, Inc. of Peshtigo, Wisconsin, and H. Ernst Deleth, president of the N. V. Nemaho Company of Doetinchem, Holland, the principals.

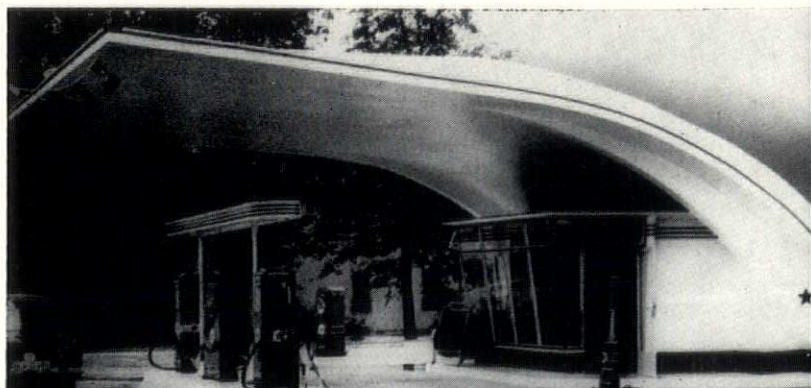
The two companies will also exchange technical, engineering and research information.

The working agreement establishes the basis for joint enterprises outside the United States.

Nemaho's architectural and engineering catalog presently is printed in Dutch, English, French and Spanish. South America already represents a growing market for Nemaho products.

After several expansions of its Peshtigo facilities, Unit built a second plant at Magnolia, Arkansas, near stands of Southern Pine used almost exclusively by Unit for its bending quality, high strength and facility for finishing in any stain or color.

Below is a "petrol" station in Germany, featuring free-standing, glued laminated arches coupled with pre-fabricated roof panels. This type construction has been used in building service stations throughout Europe by the N. V. Nemaho Company, Dutch firm now working with Unit Structures, Inc.



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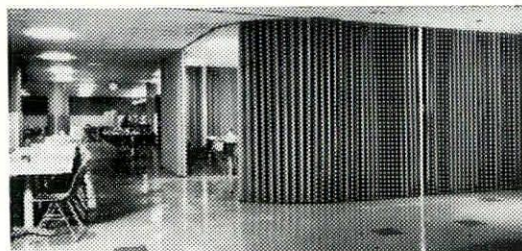
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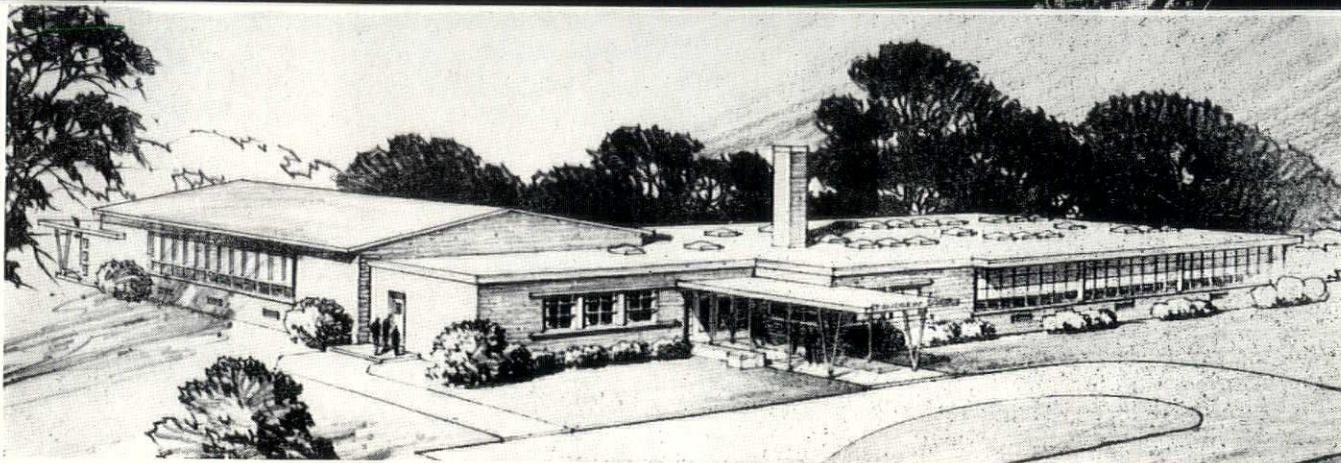
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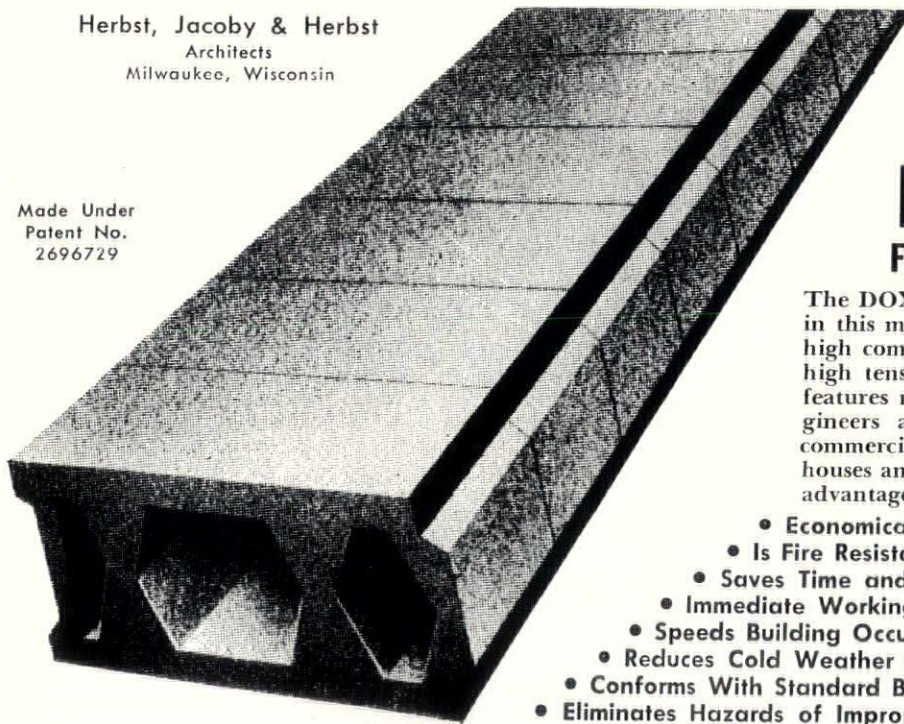
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