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NORTHWEST



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H. W. FRIDLUND, A.I.A., Editor

Appraising Under Current Conditions

By Curt C. Mack

Assistant FHA Commissioner, Underwriting

Today's extraordinary conditions in the real-estate market confront realty appraisers with numbers of perplexing problems. Mr. Mack here explores some of the factors now causing confusion, in the light of certain fundamentals of appraising

UNDER the extraordinary conditions currently prevailing, the business of realty appraising be-sets its practitioners with complex and difficult problems. We get evidence which often is confusing, and sometimes almost self-contradictory, in our search for the data from which we are expected to draw sound conclusions as to values for the clients who are paying good money for our services.

The act of ordering and paying for an appraisal is an expression of confidence in the man who is employed to appraise. Consequently, no man of integrity takes such an assignment unless he feels that he can, in truth, give his client valuable advice in the form of an appraisal and corollary information. But, when he undertakes to formulate conclusions in which he as a competent appraiser can have confidence, he is beset by the contradictory evidences which currently surround him.

It would be presumptuous even to attempt here to solve the many problems which are presented to appraisers today. Perhaps, however, we can explore some of the factors causing confusion and, by going back to the fundamentals of appraising, identify and reach a better understanding of certain of the problems.

Conditions have recurred

First, it seems to me that we have at this time an almost precise recurrence of conditions which have confronted our population after every one of our previous major wars. After each, we have had extraordinary financial conditions. Scarcities of civilian goods have developed, sometimes during war, sometimes afterward, to start inflation cycles. The expression "not worth a Continental" was coined during Revolutionary times and has survived to this day. Money at that time declined so greatly in value that it reached almost the zero point.

That hasn't happened in the present situation and probably won't. But the fact is that the demand for goods, realty included, currently far exceeds the supply. In addition, there is the capacity of the market which is creating the demand to offer money to gratify it. There is always demand, but often it is only potential because people do not have the wherewithal to buy expensive cars, houses, and other goods. But now people have a greater than normal capacity to satisfy demand, which only tends to emphasize the inadequacy of the supply.

It may be remembered that about the fall of 1937 costs of production began to rise in realty. This was clearly indicated by Federal Housing Administration construction cost figures and other cost indices. However, there was a substantial volume of supply of residential properties at that time. Vacancies were normal or above in most cities and properties were freely offered on the market. Costs of construction, in the Spring of 1938, tended to subside and level off. The reason seemed obvious. The price of realty did not follow the rise in costs of production, and competition from existing properties pulled those costs down.

Beginning about June of 1940, the costs of production again began to move up, but then the situation was substantially different from that in 1937. By 1940 the supply of residential property had greatly diminished. Not so many houses were offered for sale in most cities. Vacancies in rental properties were, generally, below what is called a normal vacancy condition. And, one other very important factor, the public was supplied with a larger than customary amount of funds with which to satisfy its demands. So, we had a trio of forces: increased costs, increased shortages, and increased capacity on the part of the market to bid for the relatively scarce supply. The stage thus was set for what followed—rising costs, rising prices, and a market able and willing to meet the increases.

What should the appraiser do in the face of such an upward moving cycle?

There are, I believe, certain approaches, fundamentals again, that we can use in analyzing what we

should do about it. Let us attempt to view the problems from possibly a different perspective than we use in our day-to-day business.

There is a difference between price and value. There are a lot of respected and able appraisers today who say: "Never mind all this so-called scientific stuff about valuation. The value of a piece of property is what you can get for it. That's the value."

But if that is the case there is no place in the English language for the word "bargain," because the word very clearly connotes that the price paid was less than the value. That's what a bargain is. Conversely, nobody would ever get a "trimming" in the real estate market, for clearly a "trimming" or a "bad buy" connotes price paid in dollars in excess of the value of the article.

Sales prices often shift

Let's explore that a little further. Place in your mind's eye a bungalow, a typical five-room comfortable home that was built somewhere between 1922 and 1928. That property, new, in those days sold for perhaps \$7,500 or \$8,500, perhaps some other price. I will use \$7,500.

In the depression years of the early 1930's, the same property sold, maybe, for from \$4,500 to \$5,250—not under foreclosure, but in what "open market" there was at that time.

Today, the market price obtainable for that same property may well be substantially higher than the cost of production in the 20's, even though the property is now about 20 years old.

What does that all mean? The bungalow still offers the same amount of service or use that it did when it was first built, assuming no significant alterations. If this house has two bedrooms, it will still shelter comfortably about the same number of persons, a man and wife and a child, or two children of the same sex—four people at the most, without crowding.

The neighborhood is older; perhaps it has declined a bit, as even good neighborhoods are apt to do. But without regard to its accumulated age, that property is still offering essentially the same quantity, though perhaps not quite the same quality, of service.

Since that is the case, it would appear that these tremendous changes of price mean simply that the "value" or rather the purchasing power of money has changed, rather than the basic, intrinsic value of the services that this property is able to give its owner.

Future must be considered

Now it is not possible to appraise a property without giving consideration to the probable future of that property, because a value expressed in money is an opinion of the present worth to a typical owner of the rights to receive the benefits of ownership from the time of the appraisal to the estimated end of the property's productive career.

That's all there is in value, with the exception of the residue, a piece of land and maybe some building material recoverable at the end of the productive (the economic life) span. So, when we express an opinion of value, we are, in fact, expressing an opinion of the present worth of the value of those benefits that will come through ownership.

Now, real estate gives nothing but service. True, it takes a lot of bricks, stone, lumber, metal, some land and other things to produce a residential property, but all you really have when you acquire it are the benefits or services—shelter, comfort, pride and satisfaction of ownership, the personal prestige. Putting all those things in a bundle, we call them amenities. The build-

ing is a nuisance. Money has to be spent to keep it in good condition. The only reason that repairs are made and the property otherwise maintained is to keep it in condition to continue that flow of amenities. Value derives from the benefits anticipated to be received in the future. Past benefits have already been collected.

To come to the money valuation, I don't believe that any group of appraisers considering a small residential property would greatly disagree as to the number of people that it could comfortably shelter, or as to the desirability of its facilities, convenience to shopping centers, transportation, reasonableness of taxes and maintenance costs, convenience of interior arrangements, or as to quality of the construction. Those things are relatively finite and can be measured fairly accurately.

Nor do I think that there would be much difference in their opinions of the length of service that the property would give, which we in the appraisal business call economic life, or productive life as distinguished from physical life.

So, insofar as basic value is concerned—that is, the probable quantity and quality of future benefits to be received—the appraisers of this hypothetical property wouldn't be far apart.

Where opinions differ

But when these appraisers begin to express their opinions of that value in terms of dollars, things begin to happen.

One says to himself: "Oh, my! We have a new burden of public debt. We never have had to bear such a burden. We have got to keep money purchasing power lower." In other words, inflation of prices, deflation of money.

Another says: "Well, I think there are going to be two chickens in every pot. This tremendous bank credit won't be spent for years. I believe the prices will hold up for 5, 6, or 7 years, anyway. That's the part that counts in this stream of amenities. Anyway, the market makes the prices, so I am justified in finding a value equal to price."

Now, I am talking about honest competent men who really say to themselves: "I believe that current prices not only can endure but may go higher. They may later come down, but the time of the cycle will be all right, so it's perfectly sound to express my opinion of value of the services this property can give in terms of present money. Hence my opinion of value is reflected by current market price obtainable."

Another man takes quite a different path—mind you, I am still talking about those three or four fellows who basically aren't very far apart concerning the real elements of value. If we could express value in terms of, well, the caloric value of a bushel of wheat, we would be tied to a constant. Then valuations probably would be pretty close together. But we cannot do it that way. We have to express our opinions of value in terms of money, which is by no means a constant.

This man says: "What goes up must come down. You know what happened the last time we went to astronomical heights. Prices now being paid in the market are not reliable indices of value. It is the quantity and flow of goods available to the markets that largely determines the purchasing power of money—and American industry has proved its capacity to produce.

"Simply because a man's got a thousand dollars in his pockets doesn't mean that he is going to pay a

hundred dollars more for an automobile than he has to pay for it. If he can bargain for it, he is going to buy it as cheaply as he can. I will not rely on market prices until I again see a reasonable balance between supply and demand and a restoration of competition between sellers."

Better balance is seen

In support of this view, there is ample evidence that industry, in a comparatively short time, will be able to produce such a flow of commodities, including all of the components of housing, that supply and demand will come more nearly into balance and buyers will be able to make free choices of goods and services. Then, and in my own opinion, not until then, will we really know what our money is worth.

The sales manager of one radio company alone, just a while ago, said that in one year of full production his company could produce two radios for every man, woman, or child in this country. The bathtub, the brick, and the lumber industries all can do comparable jobs. Consequently, I believe that in a relatively short time—whether in 1 or 2 or 3 years, I don't know, but relatively soon insofar as the long-term use of real estate is concerned—that prices are going to level off very substantially. Certainly those elements of present prices which represent scarcity must disappear when the scarcity no longer exists.

Now, there is a third method of approach in valuation, which has been attacked, but which I believe has stood up very well.

It will be remembered, in the early years of this cycle in realty, we almost never, in valuation work, found values equal to the costs of production. That's why so few houses were built. The market was glutted. There was no reasonable relationship between the income return from and the cost of producing new realty. Consequently, the market bought existing realty when it bought. I have met men holding important positions in large mortgage institutions who, as lately as five years ago, looked at me in amazement when I indicated that I thought realty might be worth its cost to produce. Replacement cost is a very important factor of value, particularly in small residential property.

On August 1, 1941, FHA headquarters wrote to its field insuring offices, stating in part that a buyer may be warranted in paying a price for a parcel of realty which, to any competent man's mind, would include a premium necessary to procure the property. The buyer might do that for any one of a number of justifiable reasons. He might need immediate occupancy. He might want to live near or far away from his mother-in-law. He might want a certain parcel of realty for his own particular good reasons.

But, the statement continued, if he elected to pay that premium, he must understand that the amount of the premium was an investment of relatively high risk capital which might quickly disappear after the conditions which created the necessity of paying the premium had passed. And, further, that the FHA would not accept the premium price as an evidence of value for long-term use. The premium paid must remain as equity investment or cost.

Obviously, this policy required a method of application to the measurement of the premium, if any, in specific cases. At first, during 1941 and 1942, FHA procedure was to select a time in each community when there was evidence of a reasonable balance between supply and demand; in effect, when the purchaser was not under duress. Prices which were paid then would

represent to us expressions of reasonable value for long-term use. Naturally, recognition of such prices as evidence of value was limited to our estimates of replacement costs of properties.

Method worked for a time

That method worked very well for a while, until it became evident that something was happening to the actual purchasing power of money as indicated by the prices paid for those goods for which competition had not developed premium prices. Since development of this condition, FHA has based its reproduction cost estimates (which still are its ceilings of value) on current costs, less those costs, both of labor and material, which are present obviously as a result of unbalanced supply-demand factors.

Among these latter items of cost are such things as long haulage and trucking of materials needed to keep jobs going when expected local sources of supply fail, the employment of expeditors to find materials, and declines in the productivity of labor in many lines. These are only a few of the obviously temporary conditions which have an important effect on current costs of production. They are not acceptable as evidence of long-term use value.

Now comes the question: When will actual reproduction cost constitute reliable evidence of the upper limit of value? In my opinion, the answer is: When supply and demand factors are in reasonable balance again and we have neither a buyer's nor a seller's market. This applies in the case of existing properties just as much as in that of building materials, land, or any other item that is a part of the cost (price) of production.

If a builder is in the market for, say, 50 electric refrigerators and can make a free choice between the standard makes, the FHA in its valuations will recognize the typical cost of those refrigerators, regardless of the dollar price upon them, because that price represents the level established in a competitive market.

I believe that we appraisers, in our valuations, must make distinctions of this sort between "price" and "value" until such time as we again see competition and free-dealing in trade.

The career of Reverend Gilbert Winkelmann, O.S.B., director of the School of Architecture, St. John's University, was brought to a close with his death in Saint Paul on January 23, 1947.

Father Gilbert was born in St. Paul on May 21, 1889, where he attended elementary school. His high school and college days were spent at St. John's University in Collegeville. In 1909 he entered the novitiate of St. John's Abbey and the following year entered the Order of Saint Benedicts. He was ordained as a priest by the Most Rev. Joseph F. Busch, bishop of St. Cloud, in 1916.

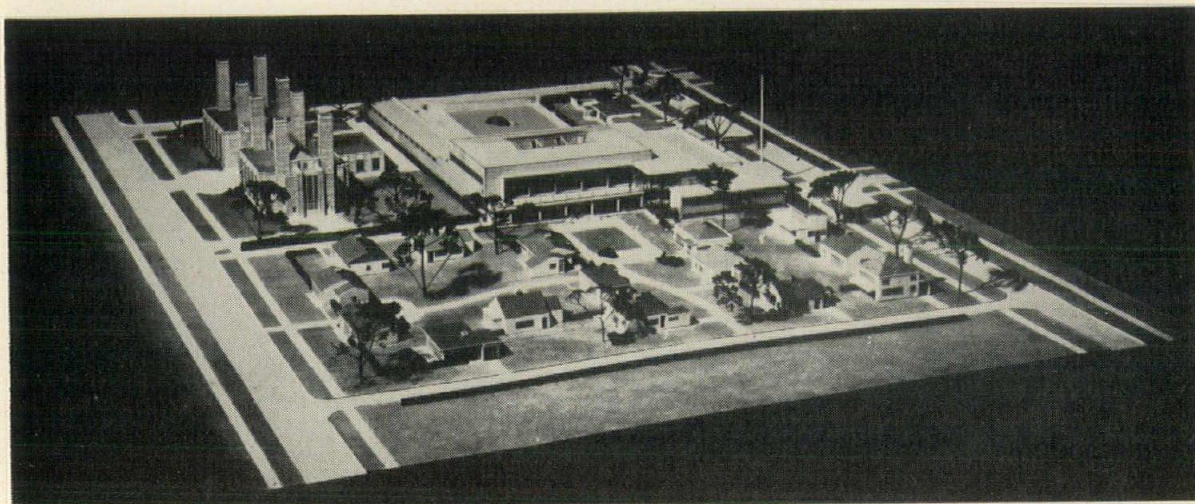
Throughout his lifetime Father Gilbert maintained an active interest in architecture and many churches throughout the country stand as monuments to his skill. He was a member of the American Institute of Architects and of the Minnesota Association of Architects. "Gib," as he was affectionately known by so many of his friends, was a member of the editorial committee of Northwest Architects for many years and contributed materially to this work. His hobby was mathematics; his work in this field attracted national interest.

Illinois Establishes Home Research Center

Part of Small Homes Council Program

Pictured here is a model of the Home Research Center which is to be constructed at the University of Illinois, Urbana. Research activity of the Small Homes Council will be carried on here. The main building (center) and the production yard will be surrounded by research houses. The brick structure in the background is the Illinois State Geological Survey Laboratory.

By MAXINE H. KENNEDY



What can a state university do to improve houses of tomorrow?

In its Small Homes Council, the University of Illinois has an answer to that question. Though created only two years ago, the Council is steadily mounting to a position of national importance as an information and research agency on low-cost housing.

A unique organization in educational and research circles, the Small Homes Council has brought together all information gathered by the University of Illinois through years of research into various aspects of home construction, equipment and maintenance. It not only is making this assembled information available to the public, but it is also undertaking new research activities. Directing the Council's activities is William H. Scheick, professor of architecture who has held the position of Co-ordinator since the Council's organization in September 1944. Associate Co-ordinator is James T. Lendrum, associate professor of engineering drawing.

The Council's informational activities have included the publication of 15 non-technical, easy-to-read circulars on various phases of home planning and building. More than 1,000,000 copies of these circulars have been distributed to homeowners and professional people of the building industry.

The educational program of the Council includes two series of short courses. One is an annual three-day course designed to bring contractors and builders up-to-date on the best in construction practices. The other course, a 30-day session for lumber yard and building material personnel, is concerned with building materials. It was conducted last fall for the first time.

Research Center

As far-reaching as these informational and educational activities have been, it is the Council's new research program which promises to contribute most to

the improvement of housing "in the tomorrow." This program of active research was launched during the past summer by the Council with the establishment of its Home Research Center.

Designed as a "laboratory" for co-ordinated research in the field of small homes, the Center will eventually occupy a four-block site on the Urbana-Champaign campus. When completed, it will include a main building or Demonstration Center, a production yard, and three blocks of research homes. It will be one of the most comprehensive research experiment and demonstration centers attacking problems of low-cost housing. No such facilities are available anywhere in the country.

A research home is already being constructed at the Center. Other buildings will be erected when funds are available.

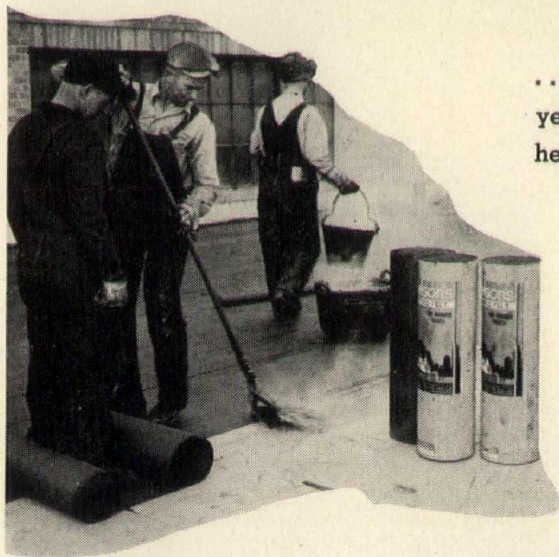
According to plans, both the Demonstration Center and the production yard will provide unlimited possibilities for applied experiments which cannot be done in the fixed surroundings of individual research houses.

The Demonstration Center (main building) will have an indoor laboratory large enough to contain two complete houses, so that experiments can be carried on with complete homes or portions of them without the expensive restrictions involved on an exterior site. It will be possible to construct buildings or rooms (such as kitchens, farm-house work rooms) with cutaway sections for experimental studies and demonstrations. In addition, this building will contain facilities for short courses—a lecture room for 300 persons, workshops, exhibition spaces.

The production yard is designed expressly for educational activities for contractors and building craftsmen. Here, partial structures or complete experimental houses will be built as actual site operations.

The research homes will be co-operative research projects with industrial associations, and will provide

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for studies of materials, construction, operation, landscaping and other problems involving small homes under actual living conditions. Some of these homes will be occupied by families for studies involving typical use, while others will be utilized entirely for technical research.

It is by bringing together in one location all necessary facilities for intensive research and education in low-cost, single-family housing units that the University of Illinois hopes to perform its share in the national effort for better housing. All resources for investigation are being pooled. Every department within the University whose work is related to the numerous phases of housing—architecture, home economics, mechanical and electrical engineering, economics—is to participate in the various projects. The Small Homes Council is the co-ordinating agency for these departments.

The Home Research Center emerged from the blueprint stage and became an actuality in August when construction of the first building to be erected on the site—a 5½-room research home—got under way.

This one-story modern house, shown in the architectural sketch, will be devoted to a study of warm air heating. It is being built as a co-operative research project between the University and the National Warm Air Heating and Air Conditioning Association.

Practically all the fundamental information upon which modern warm air home heating is based, has been developed in a similar research home which the National Warm Air Heating and Air Conditioning Association has maintained near the campus since 1924. After 22 years, however, the old research house has been deemed much larger than the average home of today. It is for this reason that it is being replaced by the new 5½-room house which, in size, is typical of thousands now being built.

The new house, like the old one, will be completely furnished and will be occupied to provide tests under actual home conditions. The study will be carried on as work of the Engineering Experiment Station by the Department of Mechanical Engineering and with the co-operation of the Small Homes Council. S. Konzo, special research professor in the Mechanical Engineering Department, is directing the project.

Besides the warm air study, the Small Homes Council has three other research projects under way at the present time.

Bituminous Coal Research Project

A three-year study relating to the planning and design of homes to be heated by coal, is being carried on in the University's Department of Architecture in co-operation with Bituminous Coal Research Inc., research agency of the soft coal industry.

The location of the central heating plant, the coalbin, the driveway in relation to the coalbin . . . future trends in house design and construction and their effect on coal as a fuel are some of the problems which are to be considered in this study on residential planning. Professor Rudard A. Jones is directing the study.

Heating a Basementless Pre-Fab

Another project concerns the use of baseboard radiation in a basementless pre-fabricated house. This study is being conducted by the University Engineering Experiment Station in co-operation with the Institute of Boiler and Radiator Manufacturers. Professor Warren S. Harris, research engineer, is in charge.

Tests will be run to obtain operating data as to gen-

(Continued on Page 16)

FHA 608 Rental Housing Program Liberalized For Action

New incentives, speedier action, and increased financial stability are offered builders and sponsors of rental housing projects by recent changes in Federal Housing Administration procedures and policies.

These changes, all designed to encourage more construction of housing for rent under conditions of greater security, consist of a series of actions over a period of several months. They affect rentals, mortgage terms, tax depreciation, property requirements, procedures of various types, and other matters.

FHA is empowered under Section 608 of the National Housing Act to insure rental housing mortgages in amounts up to \$5,000,000 and up to 90% of FHA's estimate of the necessary cost of a project, including land. The mortgage is limited to the cost of physical improvements and to \$1,500 a room attributable to dwelling use; the latter amount will be increased by the Commissioner to as much as \$1,800 if warranted by costs.

Occupancy preference is given veterans of World War II and their families.

(Rental units for veterans may also be created under FHA through conversions and remodeling—Title I of the National Housing Act—by construction of one to four-family units—and by rehabilitation and re-use of existing structures.)

Recent changes in FHA procedures and in other matters affecting rental housing, of interest to the builder and the investor, follow:

RENTS

An average shelter rent of \$80 for multi-family units is permitted under the new program, as against the former *maximum* of \$80 a unit; thus, some apartments may rent for more than \$80 if the total rental for all units does not exceed an average of \$80. This does not include a permissible allowance up to \$3 a room for services. FHA establishes the maximum rents.

Rentals must provide for an annual return of 6½% after expenses and taxes and after an allowance of 7% to cover vacancy and collection losses.

AMORTIZATION

The monthly principal amortization of mortgages insured under Section 608 has been reduced by changing the minimum required initial principal payment on a level annuity basis from 2% to 1½% of the original face amount of the mortgage.

Thus, at 4% interest a loan will mature in 32 years and 7 months, or 5 years longer than under the 2% basis. If the interest rate is less than 4%, the lower monthly payment will permit lower rentals and still longer amortization.

TAX DEPRECIATION

The Bureau of Internal Revenue now permits the selection of a higher rate of depreciation for income tax purposes on rental housing projects. This allows a more rapid write-off of the investment during the first 10 or 12 years of operation, reduces tax requirements, and permits a larger net return from earnings.

WORKING CAPITAL

The requirement for a working capital deposit with the mortgagee of at least 3% of the original principal amount of the mortgage has been reduced to 1½%.

MORTGAGE REVIEW

In collaboration with lending institutions, FHA will give consideration to readjustment of mortgage terms if necessary in the future in order to enable projects built under present emergency conditions to maintain their competitive market position and afford protection against decreased earnings.

Mortgages to be insured may be reviewed for the purpose of increasing the amount of commitments made in advance of construction where costs have made this necessary.

PROPERTY REQUIREMENTS

Minimum property requirements for multi-family units, previously in effect throughout the country, are now used only as a guide. Local FHA staffs may accept alternates which will provide structurally sound and well-designed projects with continuing rental appeal.

Where elevator structures of the corridor type offer the logical and economical solution for a rental development, FHA now accepts them for mortgage insurance provided there is substantial compliance with other requirements; this change in policy revises the requirement that all living units in a structure have through or cross ventilation and permits some of the living units to have only one exposure and encourages the profitable use of smaller sites.

An increased room count is being allowed for efficiency type living units, thus offering encouragement to this type of construction where the location warrants it.

MULTIPLE MORTGAGES

Sponsors may now submit a proposed rental housing project composed of two or more small projects where each is individually financed by a separate Section 608 mortgage. This procedure makes it possible for a mortgagor to plan and build the projects within the limitation of current labor and materials supply; it permits the mortgagor to finance the projects progressively, increases the marketability of the smaller projects, requires less rigid regulations, and furnishes certain tax advantages.

STRUCTURES UP TO FOUR FAMILIES

Rental housing projects composed of two, three, and four-family structures may now be covered by a blanket mortgage insured under Section 608 with release clause provisions; the blanket mortgage may provide for insurance of advances during construction.

Under the new "permit system" a non-veteran may construct a two, three, or four-family structure, occupy one unit himself, and rent the others to veterans. A single structure of this type may be financed under Section 603.

REHABILITATION AND CONVERSION

Rehabilitation of large structures is being encouraged by FHA offices as a source of additional family units.

FHA is surveying local situations to determine what can be done to assure expanded conversion and remodeling of existing structures to provide more rental units.

URBAN REDEVELOPMENT

An urban redevelopment committee has been set up to work with local groups and local FHA offices on methods of using insured lending for curing large-scale blight or for slum clearance.

(Continued on Page 11)

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The Legal and Financial Aspects of Building Planning

A Paper by Raphl Walker, Architect, New York, F.A.I.A.

Read before "An Institute on Library Buildings," Graduate Library School, University of Chicago

One of the oldest saws in world thoughts is that—"The worker is worthy of his hire." It has been expressed in many ways and in many tongues. This paper is devoted to the development of relationships between an owner who wishes a building and his architect and later his builder.

Any owner desiring a building must in these days seek technical aid to bring his wishes into fulfillment. No matter how well he knows the workings of the field in which he is interested, the fitting of a building to his requirements will necessitate thorough, careful consideration not only of the present but, also, some idea of what the future will bring about. One glimpses this future through two mediums, the regretful experiences of the many, as well as by the keen imaginings of inventive and pioneering minds.

To get the best results the owner should seek to set up a team—in its true sense—of himself, a competent architect, and resourceful builder. In these days of complications, of great magnitudes, of specialization, the qualities of designer and builder are separate and are rarely found associated in the same man or firm. This is especially true if a non-standard building is desired. Libraries are anything but standardized at the moment, largely because the needs of each institution which may contemplate a new building are varied and not the same.

These needs must be ascertained and stated but are not easily come at as they are often a matter of prejudice, a matter of trying to solve the failures of yesterday rather than attaining a solution of the problem itself. There is, therefore, a need for a research into every new building program, no matter how often the problem has been solved and built; a research into what is needed in special relationships, in philosophy of use, into what others are doing, as well as into the many failures in existing buildings. Care should be taken, however, not to overlook the sometimes hidden successes. Moreover the research, if it is to have any real meaning must be an active and co-operative participation by owner and architects, for it is vital that they together create a progressive program. Planning means, besides solving today's needs, not placing too many and too severe obstacles in the way of future change. For the moment we curse monumental building and its rigid enclosures. Who knows whether tomorrow we may not want again associated with the processes of learning the symbols of a new form of grand manner, if only as an intense reaction against the present common demand for the leveled spoonful.

The selection of an architect in these days should be based on his apparent willingness to study the owner's problems anew and not because he is known to design according to some style-manner past or present, or even because he has designed many libraries—this latter experience is in no way to be belittled. But more important is his willingness to see the need from another and fresh point of view. It is impossible, of course, to avoid prejudice, but if owner and architect are both flesh-minded, a new step in understanding always will be made. The owner and architect must be friendly, neither the one nor the other being high-hat about his special knowledge. A marriage is desired and not a combat.

The architect should be employed as a professional man; engaged because of his integrity and standing, and in this sense he is most worthy of his hire. There are several ways the architect's interest may be engaged: One on a percentage fee covering the cost of the building and such parts of the furnishings as the architect may design or help purchase. While this is the common practice, it has seemed to many to have made of his professional work a gamble as to whether the architect should gain a livelihood or not. There are many disadvantages to the percentage fee. The most obvious—that the amount of design work done by the architect has little relation to the cost of the building; the cost has less relation to the quality of the design. In times such as these of unstable price levels, the designer's earnings are dependent upon whether the building costs more or less. No matter how honest the practitioner may be he is forced to hope it will cost more. This method is customary for government work, as it is considered necessary to engage the profit interest of the architect. Any thought of low design cost to the owner will raise a question as to who gains if the architect's interest is only on a dollar basis.

Another way the architect can be engaged is upon a direct fee for his personal or partnership services plus a budget of reimbursable costs such as partnership services plus a budget of prints, etc., and while this budget may not be guaranteed it can be made sufficiently accurate to enable the owner to assess the limits of his obligations. This, of course, tends to place the gamble in part on the owner. His ability to make up his mind and make lasting decisions will materially affect the design cost to him. He will appreciate that while improvements in design may be expected on more prolonged study, it is his budget which is being affected; that at some time he must make up his mind to build with the knowledge he then has. If the work is done on this basis the design may be divided into several compartments as follows: Fundamental design or studies; This period should include the necessary research, i.e. by travel, by observation, by interview, and by questionnaire. It should be used to develop not only the recognized body of opinion but also, and more important, those fringes of imagination which lead to new thought. During this period of design the fundamentals of the completed design should be arrived at in well thought out solution—not only the philosophy underlying the space design but also the engineering in its structure, in its mechanical problems, i.e. each part of the complicated machine we know as modern building. The better studied all this fundamental work is, the less change there will be in the next stage of the work, for when this fundamental design is approved in normal times (normal here meaning periods of slow price change) with the accepted fundamental design should go a definite cost analysis and statement. Here the reality of the building cost may be checked by employing one or two reliable builders (without obligation for future employment) to make an accurate take-off of materials and labor. In days when buildings cost millions of dollars rather than thousands, every effort should be made to develop a better analysis than either cubage or area costs.

This stage may take from six months to a year, dependent upon the complications of the desired building.

At this point with fundamental design completed and approved, with definite basis of cost, the next step or working drawing stage can be started, and if on a fee basis under a separate contract, with the architect prepared on the known scope of the work. These drawings are also known, with the specifications, as the contract documents. They are careful, precise, detailed information, enabling the builder to order materials and his labor, to organize bidding for the subcontractors who do the mechanical and electrical trades within the building. It is obvious that the more carefully these details are prepared the more economically and more expeditiously the building will be built. It is to the owner's interest that this work be carefully and thoroughly made and engineered. This stage of work also needs the close co-operation of the owner and his architect. Weekly meetings should be held so that both the owner and the architect are aware of the other's considered opinions. Here, as well as in the fundamental design period, frank discussion and exchange of opinion can only help create a good design result. The owner, if he is to be finally satisfied, should carefully consider details and the quality of materials. Most owner dissatisfaction comes from his own neglect in learning about his building in the design stages. This working drawing stage generally takes from six to eight months.

Finally the contract documents having been completed, and a builder employed, the architect offers the services of: one, supervision—which means a general overseeing of the work, i.e., that it is in conformation again in general, to the drawings and specifications; and, two, inspection—this inspection means the employment of resident inspectors who specifically and in detail daily oversee performances and check quality and workmanship.

There are several ways of employing the builder: one, through a lump sum figure gained in competition with firms of equal merit. This type of contract is generally, all things being equal—i.e. builders merit—awarded to the lowest bidder. (This means on the architect's part that the working drawings must have been fully completed.) This is the generally accepted method of awarding contracts to builders. It assures the owner, unless he makes serious changes, the limit of building cost to which he is obligated. But it makes a gamble for good construction on whether the builder's estimates are accurate and whether his own profit is assured. However, many owners of large building experience believe this type of builder employment means just as good a building at lower cost and in faster time. It supposedly places the builder on his mettle because his own pocketbook is concerned. The owner, however, loses one thing of great importance, and that is the experience of a good builder while the working drawings are being made. This experience may mean more

economical methods of building—a buyer's knowledge of the materials in the market and the builder's own experience with them. It also means that what saving may be made in the purchasing of materials or in the employment of subcontractors will benefit not the owner but the builder.

Another method of engaging a builder is as a professional manager in the art and science of building, one whose interest is coincident with that of the owner. I have spoken of the desirability on the part of the owner of creating a team composed of himself, supposedly an intelligent owner knowing his own needs, a competent and imaginative architect capable of translating these needs into the technical language of space and material, and also a resourceful builder whose sole interest should be the further translation of this data into sound physical reality.

Where possible and permitted this latter way of employing the builder has many advantages, especially if he is engaged during the development of the working drawings when his knowledge and experience can supplement that of the owner and architect. I think here it may be restated that the knowledge necessary to construct a non-standard building, one developed to meet special requirements, cannot be accomplished by any one agent alone.

Another advantage is, of course, that with a stated fee for the builder's services generally stated against a period of building time and including his office overhead and including his profit, the owner may accumulate the savings on purchasing to his own advantage.

The disadvantages are assumed to be and are often stated that the builder under this form of contract has no profit interest in getting the work done. The contrary is more apt to be true in that the office overhead and operating personnel may actually show decided financial losses to the builder. It is obviously to the builder's advantage, and therefore profit, to conclude the building operation as soon as possible.

I wish to say that any building project which does not proceed swiftly to its conclusion carries a loss to both the architect and builder alike. The ideal client of both is one who knows what he wants, makes the necessary decisions quickly, and then sticks to them. Any other client is, frankly, a "pain in the neck."

To restate this method: It is one of paying a fee for the builder's services, including his office overhead, his profit, and any other expenses which are normal to carrying on the builder's work; and then all other costs are according to an agreed upon budget between owner, architect and builder, and against which all purchasing is tested. Practically all forward looking building here in America has been constructed on this basis.

In choosing a builder for this type of contract, a group of constructing firms in fair competition with one another should be invited to state, at a meeting with the owner and architect, the proposed organization to handle the work both in office and in field, the buildings which they have built as a team, their experience in the special type of work in which the proposed building lies, the fee and their method of financing the job.

The competition is not one of fee but of qualifications as they then exist within each organization, and the readiness of a competent team within the builder's organization to do the work. This form of contract may be limited by law in relation to certain governmental agencies, but it is my opinion that wherever possible it produces the best results.

Large building construction has been carried on contractually with a mere exchange of letters. One architectural firm has designed work up into several hundreds of millions in value on a one page letter agreement.

While every contract must carry automatically the right of cancelment upon dissatisfaction or disagreement, many other troublesome difficulties will be avoided if a simple contract stating the terms of employment is arrived at by owner and architect. It is a general custom to make more elaborate and defined agreements with builders. In both cases no harm will be done and much saved if the contracts for both with the owner are clear and well defined.

To insure the owner's interest in obtaining a good design and building result he should take the following steps:

1. Engage a competent and imaginative architect.
2. Both owner and architect engage in a research concerning the owner's needs and possible solutions.
3. Try out the ideas developed on other men experienced in the field, here—other librarians—but again do it together as owner and architect.
4. Develop a program for the building.
5. The costs of the building as represented on the approved fundamental drawings should be as accurately measured as possible under the market circumstances.

6. Owner and architect should have meetings often and engage in a free discussion of the plan merits, each permitting the other to bring forward new ideas. When the building is finished the owner, if he has been open minded, may find that the building result is what he needed and not what he first wanted.
7. Take all the time necessary to arrive at a real fundamental plan within the determined cost limits.

There is no royal road to a fine building because while it may have been most cleverly rationalized it may yet fail because it lacks a spirit, that undefined essence which makes a thing work well even when it can be proved inefficient. The architect must have achieved more than an efficient plan, and this is especially true in case of libraries, for if Winston Churchill is right, and I believe that he is, then the shape of a building has the power to shape the men who occupy it. The library must be more than a work shop, a laboratory, it must help direct men's thoughts beyond the immediate task into the imaginings necessary to promote larger aspirations.

In closing, I would suggest that the librarian owner obtain a copy of "The Handbook of Architectural Practice," published in 1943 by The American Institute of Architects. It will give the owner an insight into the contractual relations now existing in the building industry. To the owner it will offer the opportunity of asking intelligent questions.

The best way for an owner to avoid pitfalls in building construction is to set up a co-operative spirit in the construction team of his choice. The owner has a large responsibility in achieving a successful building.—Bulletin—Illinois Society of Architects.

(Continued from Page 9)

SITE INSPECTIONS

FHA insuring office staffs are co-operating with prospective sponsors in making preliminary site inspections and rendering preliminary advice and suggestions.

PROCEDURES

FHA's cost estimation system has been streamlined to reduce materially the time involved in processing rental housing project applications.

Application forms, preliminary drawings, and exhibits have been simplified. Certain other procedures have been discontinued or revised in the interest of time saving.

Action has been taken to expedite handling of requests for prevailing wage determinations by the Department of Labor, as required on multi-family construction.

PERSONNEL

FHA personnel has been increased, and qualified employes freed from their duties by the relaxation of the controls are available to help private sponsors plan rental projects and expedite processing of applications.

A mobile force of cost estimators from Washington is available to local offices where their services are needed.

Rental housing and land planning operations have been decentralized as much as possible in order to speed the start of construction.

ADDITIONAL MORTGAGE INSURANCE

The President has granted approval to FHA for a second \$1,000,000,000 of mortgage insurance authorization under Title VI, which is to be used primarily for rental housing.

Congress will be asked to extend the termination date of Title VI insurance authorization, at least for rental housing, for long enough to accomplish the desired objective.

DATES SET FOR AIA MEETING

The American Institute of Architects will hold its national convention in Grand Rapids, Michigan, April 29 to May 1, with headquarters at the Pantlind Hotel, according to an announcement by E. C. Kemper, executive secretary of the AIA.

The convention will bring to Grand Rapids about 600 of the country's leading architects with a large representation from groups affiliated with the Institute.

One of the highlights of the convention will be the presentation to Eliel Saarinen, Finnish-born architect now resident at Cranbrook school, Bloomfield Hills, Mich., of the Institute's gold medal for eminence in the field of design and for his contributions to American architecture.

IOWA ARCHITECT DIES

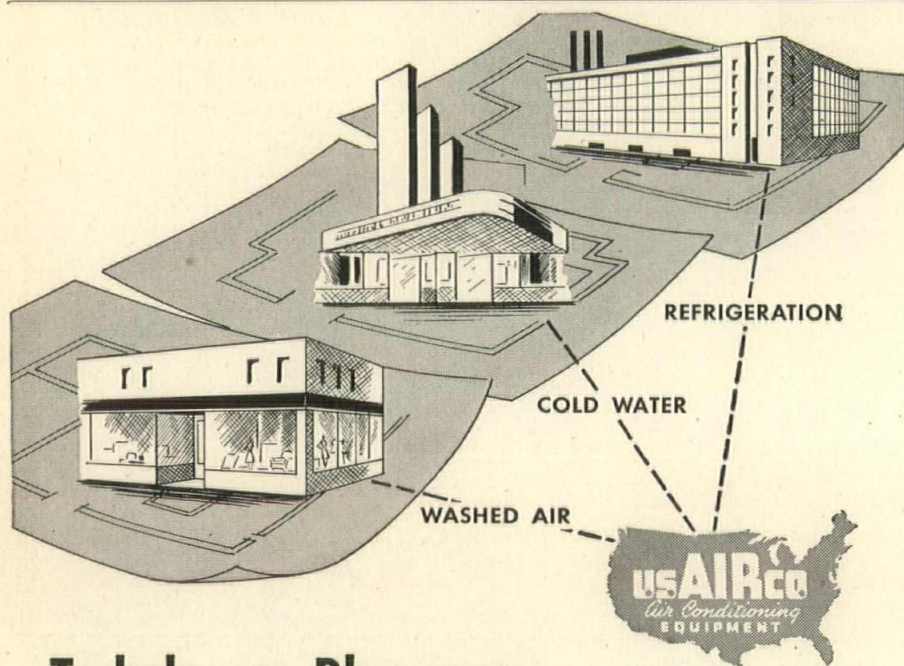
Benjamin Steven Gallup, architect, died here recently after a long illness. Mr. Gallup, who is survived by his wife, came to Cedar Rapids from Hammond, Louisiana, in 1937.

NEW ARCHITECTURAL FIRM

Karl E. Humphrey, Jr., and Collis Morgan Hardenbergh, have formed a partnership to practice architecture under the firm name of Humphrey and Hardenbergh. The new firm has opened offices at 2520 Park avenue and is now engaged in designing both commercial and residential buildings.

Mr. Humphrey, graduated from the School of Architecture at Yale University in 1938, was employed by the Minneapolis architectural firm of McEnary and Krafft prior to the war. During the war he was with the Northwestern Aeronautical Corporation in St. Paul.

Mr. Hardenbergh was graduated from the University of Minnesota in 1937, was employed by the Minneapolis architectural firm of Magney, Tusler & Setter before the war and during the war was with various aircraft firms.



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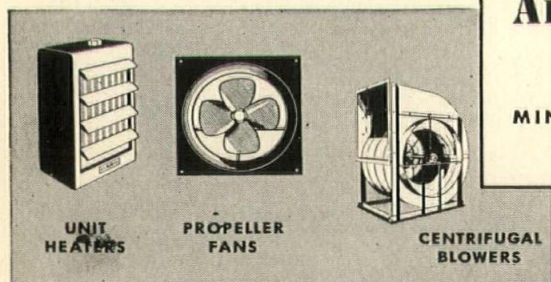
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U. S. Plywood Has Bonus Plan

A bonus plan for certain salaried employees of the United States Plywood Corporation is being considered which would allow segregation of an amount not to exceed 10 per cent of the net earnings of the group after deduction of 8 per cent on net capital. The total payment, however, could not exceed the amount paid as dividends on the common stock.

The amount set aside would constitute a bonus reserve. A bonus committee from among the directors of the corporation would administer the plan, which provides payment in cash or common stock of the company. Executives of the corporation would be among those eligible to receive the bonuses.

CORYELL OPENS OFFICE

Irving Coryell, member of the American Institute of Architects, has announced the opening of an independent office for the practice of architecture at 2925 Dean Boulevard, Minneapolis 5, Minn.

Mr. Coryell will welcome samples, catalogs and any other literature from manufacturers and dealers for his files.

Minnesota Chapter A.I.A.

Apprenticeship Standards

The following apprenticeship program has been agreed to between the Minnesota Chapter of the American Institute of Architects and the Minnesota Apprenticeship Council developed with the assistance of the Apprentice-Training Service of the U. S. Department of Labor.

Identical programs were developed also for the St. Paul Chapter and for the Duluth Society of Architects, the Duluth Society being the pioneers in setting up a program in Minnesota.

Preamble

The following outline of the apprenticeship program drawn up by the Minnesota Chapter of the American Institute of Architects is intended to alleviate the shortage in trained personnel and to assist returning veterans to qualify themselves for a position of architectural draftsmen in the practice of architecture.

Section 1

Apprentice Qualifications

- A. AGE: Legal working age and preferably not over 25 years of age, and reported of good reputation and character.
- B. EDUCATION: High School graduate or its equivalent is preferred, Completion of at least two years of High School or equivalent is the minimum required. High School, night school or Vocational school drafting experience is desirable.
- C. PHYSICAL: Physically capable of performing the work of the craft.

Section 2

Term of Apprenticeship

The term of apprenticeship shall be 6000 hours of work experience or approximately 3 years.

Section 3

Probationary Period

The first 500 hours or three months of employment after signing the apprenticeship agreement shall be a probationary period. During this period either the employer or the apprentice may terminate the agreement by written request. No cause or reason need be given.

After the probationary period, written notification requesting cancellation must also state the reasons for terminating the agreement.

Section 4

Credit for Previous Experience

Credit may be granted on the terms of apprenticeship to persons having previous experience and who desire to enter into an approved apprenticeship agreement in accordance with these Standards. The amount of credit to be granted shall be determined by the Employer and the Apprentice, but in no case shall the credited time reduce the apprentice's term to less than 4000 hours.

Section 5

Supervision

The employer shall be responsible for the training and shall provide supervision to complete the necessary hours under these standards.

Section 6

Work Experience

The following schedule of work experience shall be given the apprentice and for the approximate amount of time allotted to each part of the trade. These need not, and in many cases should not, be given in the order listed. However, every employer should follow the schedule as closely as possible.

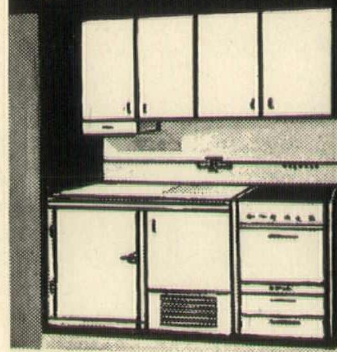
The schedule does not include all the work processes performed in an architect's office and only attempts to include the broader phases.

Section 7

- 1000 hours—File blueprints, shop drawings, catalogs, mag. plates.
Ordering blueprints and office supplies.
Wrapping and mailing.
Miscellaneous drawings.
Familiarity with office procedure and practices.

(Continued on Page 14)

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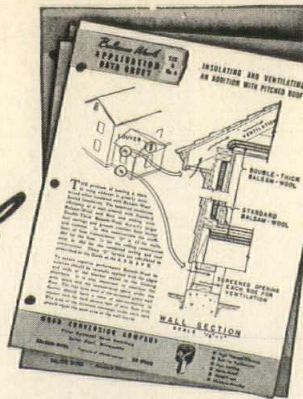
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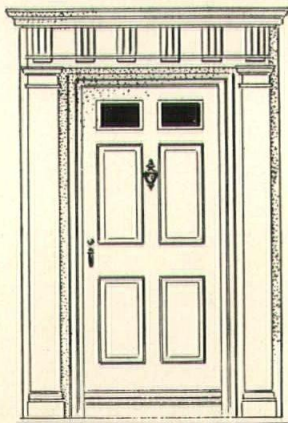


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(Continued from Page 13)

- 1000 hours—Lettering, simple tracing and drawing. Should understand drawing symbols, hatching dimensioning of plans, etc.
- 1000 hours—Tracing and drawing in pencil or ink. Familiarity with simple construction details and building materials, contour maps and grade elevations.
- 1000 hours—Interpreting and developing simple scale drawings from sketches. Familiarity with construction details and building standards. More advanced tracing.
- 2000 hours—Advanced tracing. Development of simple working drawings and details. Familiarity with perspective layout isometric drawings. Familiarity with local and state building codes. Figuring cubages and areas—tabulating cost records.

Section 8

Related Instruction

Every apprentice shall complete the required hours of classroom instruction equivalent to 144 hours per year in such subjects as are related to the trade.

Required school time shall not be compensated for by the employer and shall not be considered as hours of work.

Section 9

Wages

The employer shall pay the apprentice a percentage of the journeyman rate in accordance with the following schedule:

| | |
|---------------------------|-----|
| 1st 1000 hour period..... | 40% |
| 2nd 1000 hour period..... | 50% |
| 3rd 1000 hour period..... | 60% |
| 4th 1000 hour period..... | 70% |
| 5th 1000 hour period..... | 80% |
| 6th 1000 hour period..... | 90% |

Apprentices who are granted credit on the term of apprenticeship shall be paid at least the minimum rate for the period to which such credit advances them.

A journeyman draftsman's entrance wage as of this date is \$200.00 per month.

Section 10

Number of Apprentices

Each office may employ one apprentice for the office and one additional apprentice for each five experienced draftsmen.

Section 11

Apprentice Agreement

Every apprentice and his parent or guardian (when he is a minor) shall sign an agreement furnished by the State Director of Apprenticeship which shall be signed by his employer.

This agreement shall be filed with and approved by the State Director of Apprenticeship who will furnish copies to all interested parties.

Section 12

Adjustment of Individual Apprentice Problems

Apprentices are encouraged to take up all individual suggestions, recommendations, or minor grievances with the employer. However, any apprentice may submit any matter relating to his apprenticeship to the State Director of Apprenticeship.

Section 13

Certificate of Completion of Apprenticeship

Upon recommendation of the employer and the satisfactory completion of the requirement as specified, apprentices shall be given a Certificate of Completion of Apprenticeship by the Minnesota State Apprenticeship Council.

APPROVALS

APPROVED by the American Institute of Architects
Minnesota Chapter, Minneapolis, Minnesota, on....194..

By.....
APPROVED by Minnesota Apprenticeship Council.....
.....194.....

By.....
Secretary

* * *

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Headed by Robert Adler as president, the firm produces St. Paul Heavy-Duty Skylights, both putty and puttyless types, and Lux-Right Steel Areawalls, a hot-dipped galvanized window well wall much used in construction of modern homes with smooth ground profiles.

The company was started in 1885 by two French Canadian workers, Louis T. LeFebvre and Philip A. Deslauriers, who pooled their experience and skill in metal shaping under the firm name of LeFebvre and Deslauriers. In 1887, however, they changed to the St. Paul Roofing and Cornice Works and in 1893, with incorporation of the firm, the "Inc." was added. Mr. Deslauriers was the first president, A. K. Pruden, secretary-treasurer.

In 1894, with the trend toward the Victorian ornamentation strongly flowing, the word "ornament" was incorporated into the title and the firm operated until 1927 under the name St. Paul Roofing, Cornice and Ornament Co., Inc. In 1927 the name was changed to its present one, soon after election of N. V. Lux as president.

Officials of the firm report it was probably the first company to own hot-dip galvanizing tanks in this part of the country. During the metal building era the firm made many small structures for cottages and garages.

Now the former products associated with previous building periods have been replaced by more modern materials like But-N-Tite Steel Roofing, widely used for its neatness in forming a weather-tight building roof. The window wells are also becoming more and more frequently used and other company products find a ready use in the present building boom, according to the company.

In addition to Mr. Adler, other officers of the company are Lawrence A. Koch, general manager, and Henry C. Nord, general sales manager. Both these men have given more than 30 years of their business lives to development of the company.

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(Continued from Page 8)
eral comfort characteristics of the baseboard radiation unit, fuel costs and cleanliness of operation. Floor temperatures as regards basementless houses will be given considerable attention.

The Institute of Boiler and Radiator Manufacturers has conducted other tests in co-operation with the University. It has maintained a research home near the campus since 1940. A great deal of work on radiant baseboard heating has been done in this home, as well as research on the one-pipe forced circulation hot water system.

Findings on all research projects are to be published by the Small Homes Council in its circular-series. To date 15 circulars have been issued. They are: "Financing the Home," "Selecting a Livable Neighborhood," "Selecting the Home Site," "Designing the Home," "Solar Orientation," "Planning the Kitchen," "Insulation in the Home," "Chimneys and Fireplaces," "Storm Sash," "Heating the Home," "Fuels and Burners," "Planning for Electricity," and "Hardware for the Home." "Communications in the Home," "Interior Decoration." Others scheduled for publication soon are concerned with moisture condensation, radiant panel heating, landscape architecture and painting.

General fundamental information is presented in these circulars. Much of this information can be credited to University of Illinois research which has been carried on for more than a quarter of a century in the fields of heating and ventilation, insulation, building materials, plumbing, home management, house planning and construction, and rural architecture. The new integrated program of the Small Homes Council will enable the University of Illinois to contribute even more to the improvement of low-cost housing.

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Ninety members and guests of the Saint Paul and Minnesota Chapters of the A.I.A. attended a joint dinner meeting at the Campus Club, Coffman Memorial Union, University of Minnesota, on Thursday evening, February 20, 1947.

Mr. Roy Thorshov, President of the Minnesota Chapter, introduced the principal speaker, Mr. Val Bjornson, Associate Editor of the *St. Paul Dispatch*, who gave a most interesting and extensive talk on Iceland. Mr. Bjornson had first-hand experience in that country while in the U. S. Navy and gave a very constructive portrayal of Iceland's position during World War II and its position in World politics both during and after the recent conflict.

After a short recess, Mr. Dawson, President of the Saint Paul Chapter, reopened the meeting and introduced the two visiting Regional Directors of the A.I.A. Mr. Arthur W. Archer, Central States Director, and Mr. Paul Gerhardt, Jr., Illinois-Wisconsin Director, then opened a general discussion on the present question as to whether Minnesota should remain in the Central States Region or should petition the Board of Directors for a transfer to the Illinois-Wisconsin Region. Numerous phases of this question were discussed, including aligning Minnesota with the group most favorably located as to climate, similar governmental and political problems and personal knowledge of the architects living in the regions under consideration.

It was strongly urged by Mr. Archer that this Region give serious consideration to nominations for national offices so as to give better representation for the members in this area.

Mr. Dawson summarized the minutes of the recent Board of Directors' meeting, touching upon the items of local interest, including the suggestion from the national headquarters that the members refrain from signing any petitions relative to the United Nations' site and architect until a further study could be made.

A short talk by Mr. Robert Bainbridge on the use of reproductions in working drawings was well received and evoked a considerable number of questions and a great deal of constructive discussion. This was the final feature of the program and the meeting was then adjourned.

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Reducing Drawing Time With Reproducibles

A paper presented by Bob Bainbridge, Ellerbe and Company, to a joint meeting of the Minnesota and Saint Paul Chapters, American Institute of Architects.

While this subject is not entirely architectural it has to do with that portion of architectural practice, the production of working drawings, consequently anything that will remove the drudgery from this process and save time for more important effort toward the solution of function and design of the problem as a whole, invites investigation.

In recent years materials have been developed for making reproducible or intermediate prints, so called because they can be substituted for originals in print production.

Assume that you are preparing drawings for a multi-story building and that the columns, stairs, elevator shafts and ventilating shafts have been established. A tracing in pencil on cloth can be made incorporating the definitely established elements. From this, intermediate prints can be made. These prints can then be used for layout for each floor, locating partitions, doors, windows, fixtures and whatever equipment may be needed. These drawings in turn may have intermediate prints made from them for the working drawings for mechanical and electrical work and as computation and rough layout sheets for the structural.

At this stage you will note that we have the Architectural, Mechanical and Electrical working drawings well progressed without the necessity of tedious tracing of the architectural for the mechanical and electrical work. Also we have prints that are of great value to the structural engineer as all partitions, shafts and openings are shown, enabling him to design the structure.

Corrections on these intermediate prints can be readily and easily made by the use of a corrector fluid. Then the new design or layout can be drawn in either pencil or ink.

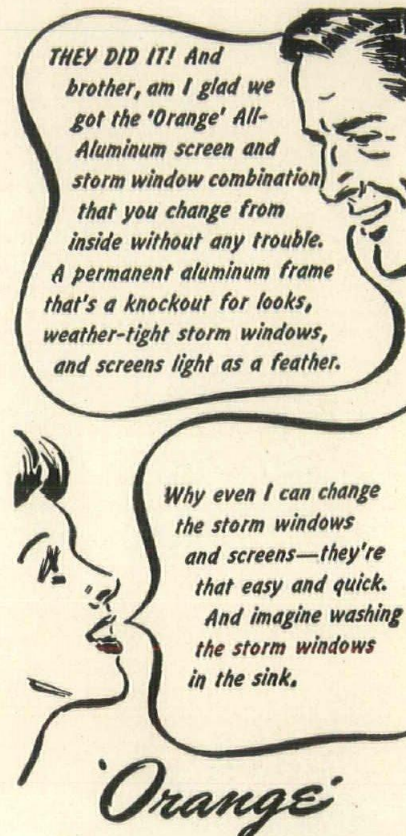
Once the working drawings have been completed and you do not wish to subject them to wear and tear of printing, reproducible prints can be made on cloth or a transparent foil which are then used for all printing. The original drawings have been filed for safe keeping.

Another important use this office has found is in connection with standard details. There are many details of buildings such as doors and frames, windows, toilet stalls and stairs which are done about the same way on job after job. To re-draw them for each job takes much time, and also there is always the possibility of errors creeping in and that such errors will be copied on the next job. Then too, an improvement on any previous standard is desirable and to incorporate this improvement on current work under contract is difficult and therefore, the tendency is to freeze the detail as of the day the standard is made.

To overcome this tendency this office has developed a technique whereby standard details are drawn on small sheets, preferably of uniform size, without borderline or sheet titles. A sheet with borderlines and title block of the size determined for the particular job is then prepared, preferably in ink on cloth, and from this an intermediate print on transparent foil is made. On this print the appropriate standard details

are assembled and attached by means of transparent tape. Then from this assembly a reproducible or intermediate print is made which becomes then the final drawing and part of the set of drawings for a particular job.

Now the standards can be improved at any time without affecting the job for which the drawings have been completed, and at the same time, individual standards can be improved without affecting completed jobs.



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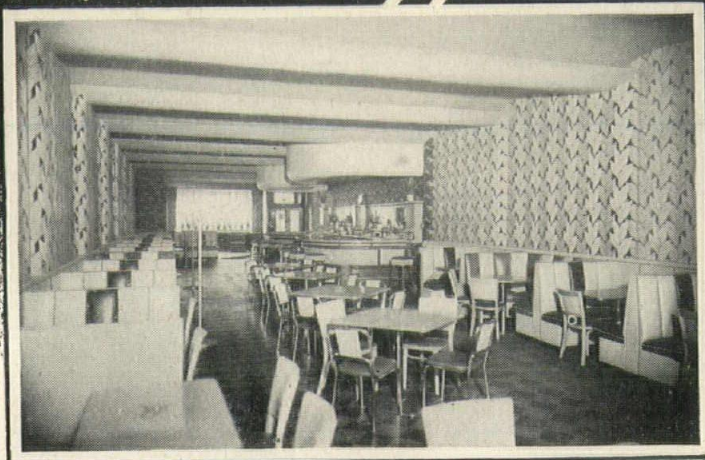
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