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THE WISCONSIN ARCHITECT

FEBRUARY 1934
VOLUME 2, Nos. 1 & 2

THE OFFICIAL PUBLICATION OF
THE STATE ASSOCIATION OF WISCONSIN ARCHITECTS

Does Your District Meet Regularly?

Do You Plan on Meeting in March?

Are You Reporting Your District News to the Wisconsin Architect So That the Rest of Us May Know of Your Doings?

WISCONSIN ARCHITECT
OFFICIAL PUBLICATION
THE · STATE · ASSOCIATION · OF · WISCONSIN · ARCHITECTS

Vol. II, No. 1 & 2 *An Organization Promoting the Best Interests of the Profession by United Action* FEB. 1934

How to Prevent Wet Basements

By PETER BRUST, F. A. I. A.

Peter Brust, F. A. I. A., member of the State Association of Wisconsin Architects, and member of the Executive Board thereof, in this article, calls upon the wealth of his architectural experience to present an article of concern to every architect, "How to Keep Basements Dry." We thank Mr. Brust for his admission that we are younger men.

The prevention of wet basements is one of the many cares of the architect, yet very little is ever written on the subject in the architectural journals and technical books. A short article on this subject should be of interest to younger men in the profession.

This article will be limited to the treatment of basements which are not as deep as the ground water level and do not require waterproofing of the type required for basements extending lower than the ground water level.

This subject has four principal divisions:

(a) Reducing the amount of surface water penetrating the ground around the basement walls.

(b) Keeping the basement floor above the ground water level.

(c) Drainage of water that penetrates the ground around the building.

(d) Water-tightness of basement walls and floors.

The reduction of surface water penetration in the ground around the basement walls is obtained by sloping the surface of the ground to form a watershed away from the basement.

Where the surface of the ground cannot be sloped to form a watershed, tile drains should be installed under the surface to intercept as much of the surface water as possible.

Roof water should be intercepted with gutters, conductors and drains. The drains from the conductors should be of cast iron. Vitreous tile drains are not satisfactory because the frost heaves them, the joints open, they get out of position and finally clog, permitting the rain water to penetrate the ground and eventually the basement.

The surface water that penetrates the ground must be intercepted with tile drains. A good tile drain installation requires a drain on both the outside and the inside of the walls around the entire basement. The two drains should be cross connected through the walls every 5 to 10 feet. The inside drain should be located close to the wall and the underside of the basement floor slab, while the outside drain may be placed a few inches higher. It is advisable to have access manholes in the drains at strategic points for flushing in case they become clogged. The drains should be covered in a manner that will permit water to enter them readily and yet keep out the earth. This is especially hard to accomplish with outside drains because there usually are several feet of earth above them.

The joints between the drain tiles are usually covered with pieces of tile of a larger diameter or with several layers of burlap wired in place. The drains should be encircled with a filtering sheath of gravel and coarse sand at least 3 inches thick for the inside drains and twice as thick for the outside drains. The top of the filtering sheath around the outside drains should be covered with several layers of burlap, or similar porous material to keep the earth out of the filtering sheath. The best possible installation is one in which gravel is placed over the outside drain to within a foot of the ground surface. For economy sake the outside drains are often made of sand and gravel. However, if this is done the gravel fill should extend to within a foot of the ground.

Basement window areas are usually drained by paving their floors with brick set in sand and placing drains in the sand bed and connecting them to the drainage system.

Underground pipe ducts connecting with basements should have drain tiles under them which should be connected to the drain system. In addition, drainage must be provided for the inside of the ducts because ground water is certain to enter them regardless of how tight they seem to be. Insulation for pipes in underground ducts should be standard type of pipe covering with waterproof jacket and not the type that fills the entire area of the duct, the latter will absorb and hold water, while the former will not.

Basements located where there are springs should have, in addition to the drains at the outside walls, an ample number of drains distributed under the entire floor area.

Basements that are deeper than the street sewer, but above the ground water level, should have the drain tiles connected to a sump and the water collecting in the sump pumped to the sewer. Pumping the water from a drainage sump may in many cases be a costly annual expense and, if so, it will be cheaper to "waterproof" the basement than pump the water.

Basement walls are generally built of poured concrete, brick or concrete blocks. The poured concrete walls can be made watertight (damp-proof) more easily than those built of bricks or blocks. To make poured concrete walls damp-proof, they must be monolithic in construction,

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The Value of Practical Experience

The architectural profession has a service to sell. This service is invaluable to all that contemplate building. This contemplation is the first step and the start if rightly conceived, adds much to bringing about a successful conclusion. Practical experience gained through years of practice is one of the important links in the most complete service rendered by an architect. The architect may gain his early training from college or office, but it is the application of this learning in the preparation of sketches, plans, specifications, details and supervision that rounds out the career of the architect and makes him so indispensable to the building public.

His *Practical Experience* assists the client in selecting the proper setting for the building. The architect's knowledge of building codes keeps the owner within the law. The action of the elements, rain, snow, heat, and cold, which go to such extremes in Wisconsin influences the design, orientation and selection of materials and much practical experience is required as the result in solving the preliminary problems involved in making the sketches. The sketches once approved, the working drawings are begun and then again the practical experience is apparent. The various details are so designed as to effect economy, practicability and permanence.

Materials are selected for suitability for the duty they perform so as to eliminate wear, and effect low maintenance cost.

The specifications are written based upon good standard practice and tested materials, especially designed materials are called for only when required, this policy effects economy.

Much attention is given to quality of workmanship so that good materials are not ruined by poor mechanics. Experience has always indicated that the first cost is not always the last if inferior materials or workmanship are permitted. The architect is always on guard to counsel the owner on the expense of inferior work and materials.

Bids from the contractors on the various branches, or general bids for all branches are very important. First, only financially responsible contractors should be invited; secondly, they should be qualified by experience to build the work that is being figured. It is bad business to let contracts to inexperienced contractors, although they may be financially sound, for the obvious reason that one can not do that which he does not know. The experience of the architect in the matter of contracts and contractors in most cases insures the engaging of capable parties.

But it is not sufficient that complete plans and specifications be prepared and contracts be awarded to reliable contractors. The work must be carefully supervised to insure that the plans and specifications are being complied with. It is not enough that good materials be used. Good mechanics must also be employed. For, poor materials can not be made into good workmanship by skilled mechanics any more than good materials may be properly wrought into a building by unskilled workmen. Again, the practical experience of the architect is the guiding star of the construction. Poor work will be rejected and be replaced with proper materials and the same applies to workmanship. The architect must at all times be judicial in his attitude, for the contractor is entitled to fair treatment.

At all times, from the first line of the preliminary sketch to the final certificate and the acceptance of the work, the guidance of the architect is invaluable to the owner. His counsel saves money for the client in the construction of the building and reduces the maintenance to the minimum after it is completed. All of this is due mainly to the practical experience of the architect.

BROCHURES LATER

Space does not permit the printing of the brochure announced in our December issue. From reports, it is evident that there is wide-spread interest in this new series.

8 PAGES—FIRST OF MONTH

This issue marks the return of an eight-page magazine for the Wisconsin Architect, appearing in the mails on the FIRST of the month. In order to maintain this precedent all copy intended for publication must be mailed not later than the TWENTIETH of the month, to allow for editing, make-up and printing.

Alfred H. Zarse

HOW TO PREVENT WET BASEMENTS

(Continued from page 1, column 3)

i. e. without construction joints. If construction joints must be resorted to they should be designed with a tongue on the section poured first at the center of the wall thickness. A generous number of steel dowels should be provided. In wet locations it is advisable to provide a caulking groove on the outer edge of the joint.

Watertight concrete must be dense: to secure this, use a minimum amount of water necessary to make a workable concrete. Integral waterproofings and special admixtures may be used, however, there is nothing better and cheaper than a dense concrete.

Concrete block and brick walls cannot be easily made watertight without a membrane waterproofing on the outside, the usual coating of mortar or pitch on the outside of the walls disintegrates in a few years and is then no longer effective.

A membrane damp-proofing built up of several layers of felt and pitch is the only kind that is permanent.

The basement floor slab should be not less than four inches thick placed, not against, but over the footing so that it can extend full thickness to the outside walls. The joint between the walls and floor slab can best be made watertight with a one-half inch thick asphaltic expansion joint strip between the edge of floor slab and the wall. This can be caulked in case a leak develops at this joint.

Still another source of water trouble in basements is due to the street drains not being large enough to carry off the water during heavy rains. This can be overcome by having separate drains for basement fixtures and drain tiles and installing a back-water valve on the basement drains before they are connected to the drains from the upper portion of the building. This back-water valve will close when the water backs up from the street drains and thus prevent flooding the basement. The back-water valve may not close tightly due to paper or lint lying across the seat of the valve. To meet this contingency, a hand operated gate-valve should also be installed in the basement drain to be closed in case the back-water valve should fail to close tightly.

A frequent cause of wet basements is condensation of atmospheric moisture. The trouble will be met in any part of a building that has walls, floors and trimmings of hard, dense materials which are slow to follow temperature changes of the surrounding atmosphere. All warm outdoor air is saturated with moisture and if this air is permitted to enter basements, or rooms of similar characteristics, the moisture in the air will precipitate on all dense, cool surfaces and make them wet. To prevent this trouble the windows should be kept closed whenever the outdoor air is warm and sultry.

There is frequent demand for living rooms in basements. The architect should in such cases inform his client that if such rooms have tile floors and wainscotings and brick or stone fireplaces their surfaces will precipitate condensation, if windows are opened on warm moist days. However, should the client demand rooms that will be dry with open windows, it will then be necessary to insulate all dense, hard surfaces that carry the earth temperature. If the insulation may not remain exposed it must be covered with thin, light weight materials that will readily change their temperature so as to keep them uniform with the air temperature in the rooms. Heavy hardwood furniture should be kept out of such rooms because their temperatures will not change rapidly enough to prevent their precipitating condensation, which will eventually penetrate the wood and cause excessive expansion and warping.

This article is written with the hope that it will develop a discussion on the subject and that other members will write similar articles on other subjects of interest to the profession.

FEBRUARY CALENDAR

WEDNESDAY, FEBRUARY 14th—

Meeting of Wisconsin Chapter, A. I. A., at City Club, Milwaukee, 12:15 P. M.

TUESDAY, FEBRUARY 20th—

Meeting of District No. 7, State Association of Wisconsin Architects, at Gimbels Grill Room (private dining room), Eighth Floor, 12:15 P. M. 30 cents.

TUESDAY, FEBRUARY 22nd—

Meeting of Madison Chapter, A. I. A., at Madison, Wisconsin.

RECOMMENDATIONS OF JOINT CODE COMMITTEE

The progress reports on the Architects' Code of the Construction Industry tell us that the graduated percentages fees as recommended by the Code Committee of the A. I. A. has been rejected by Gen. Hugh Johnson's code committee.

The joint code committee of the State Society of Wisconsin Architects and the Wisconsin Chapter, American Institute of Architects, of which Thomas L. Rose is Chairman, has advocated the Fee-Plus-Cost System of charges for architectural services.

Mr. Rose, in a recent article, summarized the recommendations of the committee as follows:

"We wish to state that we believe the Percentage-Fee System to be unsound because under it architects' charges are based upon something with which the cost of rendering service has nothing to do, consequently creating an unreasonable business hazard. We believe the Fee Plus Cost System will benefit the architect because it removes that hazard and assures him reasonable compensation in all his undertaking. We also believe it will be advantageous to the client because by being reasonable and business-like in his requirements, he will lessen the architects' costs as to secure architectural service at the lowest consistent rate."

QUICKIES

Herbert W. Tullgren's Multiple Story Duplex Apartments are described in the January issue of The Forum. It is a fine article, full of facts and figures and is good reading.

* * *

Roger W. Kirchoff and Bruce Uthus of Milwaukee are in Madison with R. C. Johnson, state administrator of the C. W. A. Both are serving as technical advisors to Mr. Johnson who, the profession must agree, made a wise choice.

* * *

Frank R. Bell, President of the Milwaukee Chapter, and T. J. Baker, local Treasurer and Director of the National Association, represented Milwaukee contractors at the 1934 annual convention of the Association of General Contractors of America, which convened in Washington, D. C., January 29 to 31.

FEDERAL GOV'T STUDIES BUILDING

Listing over 40 items of information on every residence in cities over 2500, the government study of homes, contents, uses, and materials, will be invaluable to architects when compiled.

A. C. Guth Leads Historic Committee

Alexander C. Guth of the Seventh District, State Society of Wisconsin Architects and the Wisconsin Chapter of American Institute of Architects, was appointed technical advisor for the state of Wisconsin and has 24 architects as assistants to carry out the work in Wisconsin for the P. W. A. work of cataloging historic buildings and bridges. Mr. Guth has eight squads. The names of the captains and assistants are:

Milwaukee

Alex H. Bauer, Captain; Ralph Schaefer, Roland Adams—Hugo Logemann, Captain; Eugene Eble, Eugene Phillips—E. Allan Kiely, Captain; Roman Rudolph, Howard Schutz—Carl Eschweiler, Captain; Herbert Bradley, Richard Perrin—C. F. Ringer, Jr., Captain; Ford Schmidt.

Green Bay

W. A. Oppenhamer, Captain; Louis D. Wandenbusch, Harry W. Williams — Noel Ross Safford, Captain; Clarence O. Jahn, Carlton O. Bender.

Appleton

Raymond Le Vee, Captain, Maurey Lee Allen.

They have started on their work, and aside from the fact that it furnishes employment to Wisconsin architects and draughtsmen, it is setting a precedent which can be continued year by year and leaving to posterity records of architectural work which otherwise are passing into oblivion.

The Secretary of the Interior, Harold L. Ickes, has started something.

An article headed "Building Preservation" appeared in the Forum for January, 1934, and is reprinted.

BUILDING PRESERVATION

Leicester Bodine Holland is probably the best friend an old building has. Chief of the Fine Arts Division of the Library of Congress and Chairman of the A. I. A. Committee on the Preservation of Old Buildings, he has for many years been urging the country to spare its architectural relics. Fortunately, he found one lover of traditions who could do something to help him—P. W. A. Administrator Ickes.

Out of the public works fund Administrator Ickes has drawn $500,000 to be spent immediately in a nation-wide catalogue of historic buildings and bridges. Twelve hundred architects and draftsmen are finding work in making the survey, measuring and drawing up all buildings worth preserving.

Dr. Holland heads a committee of seven advisers, which includes Architects John Gaw Meem, Santa Fe; William G. Perry, Boston; Albert Simons, Charleston, S. C.; Herbert W. Bolton, professor of history of the University of California; Miss Harlean James, Executive Secretary of the American Civic Association, and Dr. Waldo G. Leland, Council of Learned Societies.

Some time before Christmas there were to be appointed 44 technical advisers, all architects, to work under Thomas E. Vint, Chief Landscape Architect of the Office of National Parks and Buildings. In each area to be surveyed, technical advisers will organize squads of two, four and six workers to follow up preservation possibilities. Approximately 60 offices are to be opened as regional headquarters, staffed by an architect, the squads of surveyors, and clerical help. Some say the survey will take two months to complete, others say six.

Seventeenth Century houses and 19th Century masonry bridges will be given particular emphasis—chosen primarily for their architectural merit, but considering also their historical significance. To be included also are aboriginal pueblos in the southwest, Russian remains in Alaska, mining settlements, birthplaces of presidents, statesmen, inventors and other worthies.

DUES

Your State Secretary, Wm. G. Herbst, has mailed the following letter to all members whose dues are unpaid. Important work is to be done and money is needed at once. Won't you please send in your dues?

January 16, 1934.

Dear Sir:

The first requisite of a collection letter should be friendly, brief and successful.

The State Association is in need of funds to carry on meritorious work for the benefit of the profession, in this way it is befriending you.

We would enumerate many reasons, but we want to be "brief."

And now it remains for you to make this appeal successful.

The annual dues is $5.00.

Cordially yours,

W. G. HERBST, Secretary.

FOURTH DISTRICT NEWS

By C. J. BILLMEYER

District No. 4 is rather quiet at present. Have had no meeting for several months. Rather hard to get members together during the winter months as we can never tell how the roads will be up here. Most of our members are quite some distance from one another and it means 100 miles or more to some. C. Madsen, our district chairman, will no doubt call us together again as soon as possible. I know I express the feeling of our district when I say that the state association is bringing out many good things for the profession in general and are glad to see the good work continue, though we have been unable to show much good that our District No. 4 has accomplished.

Our district is strongly in favor of the abolition of plans for school houses by the state and I hope something definite is being accomplished along these lines.

SEVENTH DISTRICT NEWS

By RALPH KLOPPENBURG, Secretary

District By-Laws Adopted

Gimbels grill room was the scene of our January 16th noon luncheon, 46 architects attending. It was intended that action be taken on the matter of the proposed district by-laws, but time did not permit a discussion of same. Action was therefore deferred until a special evening meeting, held on January 24th, at the Builders Club, when the revised draft was read, corrected, and finally adopted. The by-laws were referred to the State Executive Board for its consideration.

By-Laws Prevent Election

The new by-laws call for the additional offices of first and second vice presidents, treasurer as well as two advisory board members, all to hold office until the October convention. They also require a quorum exceeding the 27 members in attendance at this meeting. Hence, these elections are deferred until the next regular meting to be held on Tuesday, February 20th.

WANT ANOTHER SMOKER

The December Architects' Smoker, well attended in spite of the extremely cold weather, was so great a success that plans are under way to have another in the near future.

» FORGING AHEAD »

Founded on the principle that the

UNITED ACTION

of the Members of the Profession would be beneficial to all, the

State Association of Wisconsin Architects

is forging ahead

"YOU 'GET OUT' OF AN ORGANIZATON JUST WHAT YOU PUT INTO IT"