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Indiana Architect

DECEMBER, 1962



USS GARYLITE expanded slag aggregate makes concrete blocks lightweight, fire-resistant, attractive

Take a close look at the concrete blocks in this picture. Notice their uniform texture and light gray color. They need no finishing to add to their beauty; but if you want to paint, plaster or panel them, it's an easy job. These blocks are made with USS GARYLITE expanded slag aggregate.

Masonry work goes faster when you use expanded slag blocks because they're easier for workmen to handle! A standard 8 x 8 x 16-inch expanded slag block weighs 10 to 15 pounds less than the same size block made with natural aggregates.

Concrete blocks made with USS GARYLITE are highly resistant to fire. An expanded slag block only 4.7 inches thick (solid equivalent) meets the National Board of Fire Underwriters' 4-hour fire-resistance test. Moreover, slag blocks are economical: their pronounced cellular structure provides good sound absorption and thermal insulation, lowering overall insulating costs; and slag blocks require no special fastening devices for furring strips —you can nail right into the blocks. Write for a copy of our USS GARYLITE folder. United States Steel, Slag Products Section, 208 South LaSalle Street, Chicago 90, Illinois. GARYLITE is a trademark of United States Steel.









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Electricity is ideal for all sorts of processing. Electric heat answers every need with its speed, wide temperature range, and accurate control. This unexcelled performance of electric heating equipment increases the efficiency of countless processing methods. It pays for itself in greater profits.

Planned lighting helps to provide uniformity of finished product in manufacturing plants. It also minimizes rejects, improves craftsmanship and increases safety.

Adequate electric wiring throughout the plant is essential to safe, continuous productive operations. Proper wiring will assure proper voltages, electrical distribution, and uninterrupted service.

Materials handling is speeded with

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a wide variety of electrical applications. Conveyors and other equipment save time and work—free labor for more productive tasks at other jobs in the plant.



In comfortable, electrically heated plants, and with proper lighting, skilled workers are more able to produce a product of highest precision. Here, an Avionics technician performs an important operation with great accuracy.





For Information!



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Indiana Architect

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Surveilance and Review

One hundred and three years ago, Uncle Billy Smith and his two sons, working for "Colonel," Edwin I. Drake, struck oil at Titusville in northwestern Pennsylvania. It was a big strike for those days—twenty barrels of oil per day.

I happened to be on the Island and Nantucket just about a hundred years after the Pennsylvania oil strike, and discovered what it had done to Nantucket. It had struck Nantucket dead—for the simple reason that Nantucket had prospered on the whale trade, and the sale of sperm oil for the lamps of America. The discovery of petroleum in Pennsylvania killed the market for sperm oil as dead as the whales from which it was extracted.

Any visitor to Nantucket these days must be struck, as I was in 1959, by the unchanging quality of its architecture and its townscape. For a hundred years, from the death of the whaling industry to the birth of the tourist industry, Nantucket slept the sleep of the righteous poor. For a hundred years, except for a brief Civil War boom, hardly a shutter was shifted, nor a single shingle reshingled. No captains walked the docks, no widows climbed to the rooftop of those handsome old houses to look for the returning ships.

And it occurred to me then, looking at Nantucket, that the greatest preservatives of architecture in the past have been either poverty or plutocracy. Plutocracy gave us Rome, Newport, Tuxedo Park, Versailles. Poverty gave us Nantucket, Natchez, Annapolis, and those lovely slumbering southern towns I visited as a youngster—Charlestown, South

Last spring, the American Institute of Architects honored Mr. Clay for his work in the field of urban affairs by conferring upon him an honorary membership in The Institute. Shortly after this, Mr. Clay participated in the annual convention of the Indiana Society, and we feel most fortunate to reprint this article which was condensed from his remarks at that convention, Carolina and Savannah, Georgia. Towns where nothing of importance had happened since the late War Between the States; towns where nobody had the money to fix up, paint up, clean up, or even tear down. Their newspapers, or more properly, their No-newspapers, reflected their architecture: empty, enervated, sleepy and somehow content. Those were the cities of Let-Well-Enough-Alone. And if Well-Enough wasn't good enough, you could always go North, make money, and never be heard from again.

Today those once sleepy cities are turning themselves into tourist traps and outposts of Northern industry as fast as their new Chambers of Commerce can push them. Today you cannot touch a single shingle, nor shift a precious shutter, without being served legal notice to cease and desist by the local Architectural Preservation Society which, it may surprise you to learn, now has the power of law to preserve what is undoubtedly the new economic base of the community—the architectural heritage on which so many modern tourists feed, and for which they pay great sums of money to be lectured. The descendants of the old Nantucket ship captains are harpooning a new kind of fish—and far more profitably.

For a hundred years, those old towns were no places for building architects or for newspapermen. There was nothing new; there was no news.

Today, as most of you know, those towns and cities are getting more like Indianapolis and Louisville and Dayton and Detroit with every passing bond issue: full of enterprises, enormous plans, grandiose projects and new people—people for the most part born someplace else, and determined to grab a piece of Higher, Standard of Living. This generally means changing something, building something, or tearing something down.

The first change is one which, I am afraid, architects have little to do with: the growth and geographic expansion of our cities into suburbia. This is where the great construction boom of the next twenty-five years will take place. Urban redevelopment can't hold a candle to suburban development in dollar volume or in total impact on the lives of our people.

SUBURBIA

My comments on suburbia are probably prejudiced, for I have spent considerable time (Continued on Page 39)

It would be more fitting for Mr. Grady Clay to introduce this magazine to our readers than for us to presume to introduce him. For Grady Clay is well-known both to Indiana and the nation; he is the real estate and building editor of the Louisville, Kentucky, "Courier-Journal," and the editor of LANDSCAPE ARCHITECTURE. He has written many articles for national publications on urban affairs and was the only newsman invited to participate in the first International Seminar on Urban Renewal Seminar.

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Prologue

This issue represents a new venture for the INDIANA ARCHITECTURE. Never before has the magazine worked with one segment of the construction industry in presenting a special issue, but we feel this has been a successful attempt.

In compiling the material for this presentation on concrete masonry and its architectural applications, we have been most fortunate in working with one of the newer trade groups in Indiana, the Indiana Concrete Masonry Association, and we felt we should take time out to introduce this group to our readers.

The Indiana Concrete Masonry Association was organized in November 1958, by twenty five (25) Indiana block producers. The fundamental purpose of the Association is to facilitate the acquirement and interchange of practical knowledge among Indiana Block Producers. In addition, the organization is active in the development of a standard of quality in concrete products which will result in the extended use of concrete masonry in the building industry. Further, the Indiana Concrete Masonry Association seeks to cooperate with related industries and professions toward mutual improvement of industry conditions.

The Indiana Concrete Masonry Association and its members are highly cognizant of the vital role the Architect plays in the building field and much attention is directed to the development of information and other assistance for the Architect. ICMA is affiliated with the National Concrete Masonry Association and works closely with NCMA in their programs designed to furnish pertinent information to the Architect. The membership of ICMA now numbers thirty eight (38) and they have the important assistance of twenty eight (28) associate members who manufacture or distribute products related to concrete masonry production. It is estimated that ICMA members produce about 60% of the concrete masonry products manufactured in Indiana.

Currently, the Indiana Concrete Masonry Association is developing a standardized numbering system for concrete products. When implemented throughout the State, these standard numbers will assist architects and other specifiers when planning construction involving concrete masonry products.

Of considerable interest and importance to our industry and to architects is the ICMA Specification and Control Joint Manual published in January 1962, which is discussed in another section of this issue.

Currently, at the helm of ICMA is Ralph W. Walb, President of General Dredging Company of Fort Wayne. W.E. Thorn of New Albany is vice-president, and Executive Director is Robert W. Walton of Indianapolis. James F. Harris of Indianapolis is treasurer. The Association maintains offices at 5231 North Winthrop Avenue, Indianapolis.

An important function of the Indiana Concrete Masonry Association is to disseminate information to the building industry and related professions about concrete masonry. Architects desiring publications dealing with concrete masonry design and specifications may contact the ICMA office at 5231 North Winthrop Avenue, Indianapolis—Phone CLifford 1-9246. All requests for concrete masonry information will be handled promptly.



RALPH WALB



W. E. THORN



JAMES F. HARRIS



ROBERT W. WALTON

Important Notice for every self-employed person

Indiana National is one of the first banks in the nation to establish an investment fund to provide pension and retirement benefits for the self-employed. It qualifies for all tax advantages, will be tailored to your own needs, and will have Treasury Department approval under appropriate provisions of the Internal Revenue Code.

How much tax can you save? The table below is a guide for various tax brackets assuming fixed self-employed earned income, earnings of 4% on retirement contributions, and current income tax rates for a married person.

Retirement Contribution	Retirement Contribution Tax Deduction	Accumulated Retirement Fund After 20 Years	Aggregate Federal Income Tax Saved On 20 Annual Contributions	Aggregate Federal Income Tax Saved On Interest Earned by Fund Over 20 Years	TOTAL INCOME TAX SAVED	
\$1,000	\$ 500	\$30,969	\$ 1,980	\$ 2,413	\$ 4,393	
1,500	750	46,453	4,500	4,936	9,436	
2,000	1,000	61,938	6,800	7,459	14,259	
2,500	1,250	77,422	10,740	11,791	22,531	
2,500	1,250	77,422	13,240	14,534	27,774	
2,500	1,250	77,422	14,740	16,179	30,919	
2,500	1,250	77,422	15,500	17,002	32,502	
2,500	1,250	77,422	17,240	18,921	36,161	
2,500	1,250	77,422	18,000	19,744	37,744	
	retirement co Retirement Contribution \$1,000 1,500 2,000 2,500 2,500 2,500 2,500 2,500 2,500	retirement contributions, an Retirement Contribution \$1,000 \$ 500 1,500 750 2,000 1,000 2,500 1,250 2,500 1,250 2,500 1,250 2,500 1,250 2,500 1,250 2,500 1,250 2,500 1,250	retirement contributions, and current income Retirement Contribution Retirement Contribution Accumulated Retirement Fund After 20 Years \$1,000 \$500 \$30,969 1,500 750 46,453 2,000 1,000 61,938 2,500 1,250 77,422 2,500 1,250 77,422 2,500 1,250 77,422 2,500 1,250 77,422 2,500 1,250 77,422 2,500 1,250 77,422 2,500 1,250 77,422 2,500 1,250 77,422 2,500 1,250 77,422	retirement contributions, and current income tax rates for m Aggregate Contribution Retirement Contribution Accumulated Retirement Fund After 20 Years Aggregate Federal Income Tax Saved On 20 Annual Contributions \$1,000 \$500 \$30,969 \$1,980 1,500 750 46,453 4,500 2,000 1,000 61,938 6,800 2,500 1,250 77,422 10,740 2,500 1,250 77,422 14,740 2,500 1,250 77,422 15,500 2,500 1,250 77,422 17,240	Retirement Contribution ContributionRetirement Contribution Tax DeductionAccumulated Accumulated After 20 YearsFederal Income Tax Saved On ContributionsFederal Income Tax Saved On Contributions\$1,000\$ 500\$30,969\$ 1,980\$ 2,4131,50075046,4534,5004,9362,0001,00061,9386,8007,4592,5001,25077,42210,74011,7912,5001,25077,42213,24014,5342,5001,25077,42215,50017,0022,5001,25077,42215,50017,0022,5001,25077,42217,24018,921	retirement contributions, and current income tax rates for married person Aggregate Federal Income Contribution Aggregate Federal Income Tax Saved On 20 Annual Contributions Aggregate Federal Income Tax Saved On 10 Frances Earned by Fund Over 20 Years TOTAL INCOME TAX SAVED \$1,000 \$500 \$30,969 \$1,980 \$2,413 \$4,393 1,500 750 46,453 4,500 4,936 9,436 2,000 1,000 61,938 6,800 7,459 14,259 2,500 1,250 77,422 10,740 11,791 22,531 2,500 1,250 77,422 13,240 14,534 27,774 2,500 1,250 77,422 15,500 17,002 32,502 2,500 1,250 77,422 15,500 17,002 32,502 2,500 1,250 77,422 17,240 18,921 36,161

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1963

ARCHITECTURAL SCHOLARSHIP

AWARDED BY THE INDIANA SOCIETY OF ARCHITECTS A CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS

Each year, the Indiana Society of Architects awards a \$2,500.00, five year scholarship to encourage young men and women from Indiana to prepare themselves to engage in the practice of architecture as their life work. This year's award will be the second such scholarship awarded.

The recipient will receive from the Indiana Society of Architects, five yearly payments of \$500.00 each, for a five-year total of \$2,500.00, provided the recipient remains a student in good standing at one of the accredited schools of architecture in the United States.

Those eligible for this scholarship include all Indiana high school seniors graduating in June, 1963, or at the preceding mid-term, and those graduating in June, 1962, who have not been enrolled full-time in any college or university. In addition, students must have been accepted by an accredited architectural school prior to the time of the award and must have had legal residence in Indiana during their senior year in high school.

The award will be made by a jury composed of two corporate members of the American Institute of Architects and one educator, and will be based upon the following criteria:

1. An autobiographical essay of not more than 1,500 words, which should include facts concerning the applicant's background and preliminary training, interests, etc., and a statement as to his reasons for desiring to become an architect.

2. An evaluation of the student based upon a personal interview with an architect in or near the students' home community, who is a member of the American Institute of Architects.

An alternate will be chosen each year and will receive the award if for any reason the winner is unable to accept the scholarship. If no suitable candidates are available in any year, no scholarship will be awarded for that year.

The schedule for the 1963 scholarship is:

November 1962	Application forms available from your high school principal or from the Indiana Society of Architects.
June 30, 1963	Deadline for submission of essay, statement of acceptance by an accredited school or ar- chitecture, and personal interview.
August 15, 1963	

Those interested in obtaining additional information are requested to contact the Scholarship Committee, The Indiana Society of Architects, 3637 North Meridian Street, P.O. Box 55594, Indianapolis 5, Indiana.



1963 AIA Show Home, Indianapolis . Architect: Fran E. Schroeder & Assocs., Indianapolis



Westfield High School, Westfield . Architect: Donald A. Hinshaw, Carmel

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By R. KIRBY WHYTE Vice-President Indiana National Bank

Retirement Benefits for Self-Employed

In the United States as early as 1945, the New York Bar Association passed a resolution pointing out the discrimination against the Self-Employed in the matter of retirement programs. Then in 1951, Rep. Keogh, also of New York, and perhaps as a result of the earlier New York Bar action, introduced a Bill for the Self-Employed, but the Bill was not passed until 1962.

The early bill provided for a maximum \$7,500 annual contribution, and a limit of 20 years, which would build up a maximum fund of \$150,000 plus increments due to income and market appreciation.

Each year, when hearings were held on the Bill, the Senate Finance Committee and the Treasury Department testified against the Bill, on the basis it would cost the Treasury Department too much in lost revenue. Their estimates being in the beginning approximately \$100 Million annually, and each time they appeared, they increased this loss figure. And shortly before the passage of the bill, the Treasury Department testified its loss would be \$400 Million dollars annually. In actual practice, we doubt that the revenue loss will be even \$19 Million the first year.

Now we have Something Entirely New—Beginning with the year 1963, it is now possible for the Butcher, the Baker and the Candlestick Maker or any Self-Employed Individual to set up a Pension Plan for himself and his employees and get certain tax advantages for himself and his employees, and to enjoy some of the tax and retirement benefits which, prior to 1963, were available only to corporation employees.

Here is How It Works-A Self-Employed person may set up a Pension Plan for himself, provided he includes all employees who have worked for him three years or longer. The amount that a Self-Employed person is allowed to contribute is 10% of his adjusted gross income-or a limit of \$2,500.00. The Self-Employed person gets a tax deduction for one-half of the amount of the contribution, (in the case of the maximum \$2,500.00 contribution, one-half or \$1,250.00 would be deductible). The percentage which the employer contributes for himself can not be greater than the percentage which he contributes for his employees. However, the amount contributed for his employees is deductible in full. The deductions are taken from gross income in determining adjusted gross income, so that the taxpayer may also qualify for the standard deduction. Earning on the annual contributions made to the fund are not taxed as they accrue, but will be taxed at a later date-no doubt, when the individual has retired and will be in a much lower income tax bracket.

Under certain conditions, Self-Employed individuals may

also set up deferred profit sharing plans to provide retirement benefits.

What is Earned Income? Only Earned Income may be considered in establishing a Self-Employed Plan. "Earned Income" means the net earnings from personal effort or services through Self-Employment in general. Thus an inactive owner who derives his income from investments only, would not be entitled to participate in the plan. Where both personal services and invested capital are material income producing factors, "Earned Income" means not more than 30% of the net profits, or \$2,500.00 whichever is greater. If net profits are \$2,500.00 or less, the entire amount of the profits is considered "Earned Income."

HOW YOU CAN PUT THE MONEY ASIDE

1. Deposit with a financial institution—generally in a Trust—and, preferably, of course, with The Indiana National Bank.

2. Lodged in a custodial account with a financial institution if the funds are invested in: stock of an open end regulated investment company; or, in Life, Endowment or Annuity contracts issued by an insurance company.

3. Invested in non-transferable annuities with an insurance agency or in non-transferable face amount certificates.

4. Invested in a new series of U.S. Bonds, yet to be issued. These bonds may be purchased only in the name of an individual. They provide for the payment of interest only upon redemption. Redemption prior to the owner's reaching the age of $59\frac{1}{2}$ is permissible only upon the owner's death or disability. The bonds will cease to bear interest five years after the owner's death. The income, upon redemption, is subject to the Federal income tax, and capital gains treatment is not available.

When can you get the Funds? Distributions may not be made to Owner-Employees before they reach the age of $59\frac{1}{2}$, except in case of death or disability, and must begin not later than age $70\frac{1}{2}$. In the case of Self-Employed individuals other than Owner-Employees, distribution must begin not later than age $70\frac{1}{2}$ or the year of retirement, whichever is later.

If an Owner-Employee dies, his remaining interest in the plan must be:

1. Distributed to his beneficiaries within five years from the date of death or, if later, the death of his spouse; or,

2. Used within five years to purchase an immediate annuity payable over the beneficiary's life, or over a period not longer than his life expectancy; or,

3. Paid out under a plan of distribution already commenced, over a period no longer (to Page 34)

13

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Music Library, Washington University, St. Louis, Missouri



BOX 757

BLOOMINGTON INDIANA

Architects: Smith and Entzeroth Clayton, Missouri

Architecture in the News

The Lathing and Plastering Bureau of Indianapolis has just announced its fourth annual Gold Trowel Award Program for the best use of lath and plaster design. The competition will serve a two-fold purpose: to honor those who have contributed to the beauty of Indianapolis architecture through the most effective use of lath and plaster, and to focus public attention on the beauty and durability of interior and exterior plaster.

The competition is open to architects, designers, draftsmen and engineers located in Marion County (home offices), for work completed between June 1, 1960, and December, 1962, in Marion County. Entries must be postmarked not later than midnight, December 30th.

The \$300 cash first prize and trophies will be awarded at the Bureau's 7th Annual Joint Dinner Meeting to be held Thursday, January 24th, at the K of C Hall, 71st and Keystone, Indianapolis. The speaker for this banquet will be Mr. Andrew J. Watt, Executive Vice-President of the U.S. Gypsum Company.

A number of new personnel notices have come to our attention, including one application from an architectural secretary with five years' experience in a Las Vegas architect's office, where her duties included bookkeeping, job records, secretarial work, billing and some specification writing. Further information can be obtained by contacting the ISA office.

Another note on personnel comes from John Fleck, of Fleck, Quebe & Reid, who announces that they are interested in hiring an additional specification writer. Applicants should contact Mr. Fleck direct at 1815 N. Capitol, Indianapolis. And there still continue to be openings for qualified, experienced architectural draftsmen. Further information on these openings can also be secured through the ISA office.

Finally, as announced in last month's magazine, we have a request for experienced mechanical and electrical engineers in Lexington, Kentucky. Interested applicants should contact McLoney, Tune & Clark, P.O. Box 7157, Henry Clay Station, Lexington, Kentucky.

In observance of the Christmas holiday, the ISA office will be closed for the long week-end from Friday evening, December 21st, to Wednesday morning, December 26th. The office will be open, however, on Monday, December 31st, and closed New Year's Day.

In an attempt to improve public understanding of architecture, the AIA, the National Education Association and the National Association of Secondary School Principals have collaborated in producing a filmstrip on architecture for use in high schools.

Titled "Architecture and Your Life," the filmstrip contains fifty full-color frames and an accompanying text. It traces the history of architecture, describes the procedures and concepts by which architecture is produced, and explains the role of the private citizen in the future development of our physical environment.

Anyone desiring to use this filmstrip should contact the ISA office, 3637 N. Meridian Street, Indianapolis. One copy is now on hand and additional copies will be ordered if necessary.

15





Cold Weather Masonry

In years past, any masonry construction work usually stopped with the advent of cold weather, and it wasn't resumed until the weather became warm enough to prevent freezing of the mortar.

Today, the precautions necessary in placing concrete in cold weather are applicable with little modification to construction with concrete masonry. All precautionary measures should be closely supervised and adequate protection provided for at least 48 hours.

ENCLOSURES

Many materials are available today that can be used to enclose a structure or working area. Tarpaulins probably are most versatile and widely used, but kraft or fiberreinforced paper and plastic coverings are also used. Plastic coverings have the advantage of permitting daylight to penetrate the enclosure. Protective coverings should be well lapped and securely fastened.

To protect concrete masonry construction in the enclosures, and to provide comfortable temperatures for the workmen, a temperature above 40 deg. F. is required on both sides of the wall. On small jobs, simple oil- or cokeburning salamanders are generally used within the enclosures and are often used directly on the scaffold. On larger jobs, additional heat is needed to protect the concrete masonry partition walls as well as the outer masonry walls.

Portable hot-air heaters are often used to heat larger areas. These heaters are usually the oil-fired, fire-gun type of burners or electrical heaters which can easily be moved to provide protection where needed.



Wooden frame and tarpaulins provide excellent cold weather protection.

STORAGE OF MATERIALS ON THE JOB SITE

Upon delivery to the job site, concrete masonry units and mortar materials must be carefully stored to keep them dry.

Concrete block should never be stored in direct contact with the ground; instead, they should always be stockpiled on planks or platforms which are thick enough to prevent the units from absorbing moisture. The units should always be covered to protect them from becoming wet from rain, ice or snow. Mortar sand stockpiled on the job should



Heating mortar sand with slow-burning fire built in open-end drum.

be similarly covered. Mortar sand is generally heated by placing it around and over a large-diameter pipe laid horizontally in which a slow-burning fire is built. If necessary, two or three oil drums laid end to end with tops and bottoms removed can be substituted for the pipe. Care should be exercised to prevent the sand from being scorched and thus made unfit for use.

Heating the mixing water is one of the easiest methods of raising the temperature of the mortar. Mixing water should not be heated above 160 deg. F. because of the danger of a "flash" set when it comes in contact with the cement.

After the sand and water have been combined with the portland cement in correct proportions, the temperature of the mortar should not exceed 100 deg. F. or be less than 70 deg. F. when placed in the wall. If the temperature of the mortar when used is above 100 deg. F. fast hardening may occur and insufficient bond and poor compressive strength may result.

The use of an admixture to lower the freezing point of the mortar should not be permitted. The quantity of such materials necessary to lower the freezing point to any appreciable degree would be so large that the mortar strength and other desirable properties would be seriously impaired.

To shorten the time required for a mortar to attain sufficient strength to resist freezing action, a calcium chloride admixture is often used. Calcium chloride should be used in a solution. Such a solution can be prepared by dissolving 100 lbs. of flake calcium chloride in 25 gal. of water. The resulting solution contains 1 lb. of calcium chloride in each quart. Not more than 1 qt. of this solution should be used with each sack of masonry cement.

When the outside temperature is below 20 deg. F. the concrete masonry units should be heated to at least 50° F. to prevent sudden cooling of the heated mortar as it comes in contact with the cold block.

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Problems With Effloresence?

Efflorescence is a deposit, usually white in color, that sometimes appears on the vertical surfaces of masonry walls. When it does it spoils the appearance of the wall. Often it is most apparent just after the structure is completed—the time when the builder, architect, and owner are most concerned with the appearance of the new structure.

A combination of circumstances is necessary for efflorescence to appear. First, there must be soluble salts in the masonry wall. Second, moisture must pass through the wall to act as a vehicle that will pick up the soluble salts and carry them out to the surface. If either of these two conditions is eliminated, efflorescence will not occur.

The efflorescence-producing salts found in masonry are usually sulfates of sodium, potassium, magnesium, calcium, and iron (ferrous); or carbonates of sodium, potassium, and calcium. Salts that are the chlorides of sodium, calcium, and potassium sometimes appear, but since these salts are so highly soluble in water, the first rain will often wash them off the wall.



An example of severe efflorescence.

In most cases, salts that cause efflorescence come from within the wall. However, sometimes chemicals in the masonry react with chemicals in the atmosphere to form the undesired efflorescence.

Another source of salts is the soil in contact with basement and retaining walls. If the walls are not protected with a good moisture barrier, the salts may be carried up to the first few courses above ground.

HOW TO PREVENT EFFLORESCENCE

Since many factors can influence the formation of efflorescence, it is difficult to predict accurately the extent of efflorescence that may appear. However, as mentioned earlier, efflorescence will not occur if either (a) the soluble salts are eliminated from the wall or (b) water passage through the wall is prevented.

ELIMINATE THE SALTS

Here are ways to eliminate efflorescence-producing soluble salts in masonry walls:

1. Use only cementitious materials for mortar that meet the following specifications:

Masonry Cement ASTM C91 Portland Cement ASTM C150

- 2. Never use unwashed sand. Sand should meet the requirements of ASTM C144.
- 3. Never use masonry units that are known to effloresce while stockpiled. Use only masonry units of established reliability that pass the efflorescence tests in ASTM C67.
- 4. Use clean mixing water free from harmful amounts of acids, alkalies, organic material, minerals, and salts. In some areas the drinking water may contain a sufficient quantity of dissolved minerals and salts to adversely affect the resulting mortar.
- 5. If walls of hollow masonry units are to be insulated by filling the cores, be sure the insulating material is free of harmful salts that may cause efflorescence.
- 6. Be absolutely certain that mixer, mortar box, and mortarboards are not contaminated or corroded. Never de-ice any masonry equipment with salt or antifreeze material.
- 7. Tools should be clean and free of rust, salts, and any harmful material. For example, do not use a shovel for any salt and re-use it for mortar sand without first thoroughly cleaning the shovel.

ELIMINATE THE MOISTURE

To eliminate passage of moisture through masonry walls, these steps are recommended:

- 1. Correctly install flashings and copings to prohibit entry of water.
- Install vapor barriers in exterior walls or apply vaporproof paint to interior surfaces.
- 3. Apply paint or other protective surface treatment to the outside surfaces or porous masonry units.
- 4. Tool all mortar joints with a V or concave shaped jointer. This compacts the mortar at the exposed surface and helps improve the tight bond of mortar to the edges of masonry units. Weeping, raked, and untooled struck joints are not recommended.
- Carefully plan installations of lawn sprinklers or any other water source so masonry walls are not subjected to unnecessary wetting.
- 6. If architecturally feasible, use wide overhanging roofs to protect the walls from rainfall.

HOW TO REMOVE EFFLORESCENCE

Most efflorescence can be removed by dry brushing. If this is not satisfactory, it may be necessary to wash the surface with dilute solution (to Page 21)

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New Masonry Specifications

Concrete masonry today has won a unique place in modern building construction. In terms of wall volume, it is used for more than two-thirds of all masonry walls built. Concrete masonry has long been recognized as an excellent structural material. The characteristics demanded in modern-day structures—beauty, fire safety, durability, good insulation qualities, comfort, utility and good acoustics—are all obtained with concrete masonry. Now, architects and



craftsmen, having become better acquainted with it, have a fuller appreciation of its wide architectural possibilities as a finish material for both exterior and interior walls.

Since concrete masonry does have many and varied applications in building construction, block producers and their industry associations are highly conscious of the importance of providing architects and builders with products of superior quality and the latest in design information for the use of concrete masonry products.

Tangible evidence of the Indiana Concrete Masonry Association's awareness of the need for quality maintenance and technical design information is their recent publication— **SUGGESTED SPECIFICATIONS FOR CONCRETE MASON-RY AND CONTROL JOINTS FOR CONCRETE MASONRY** which is pictured, in part, on these pages. This technical aid was developed in 1961 by the Technical Committee of the Indiana Concrete Masonry Association. IMCA's Technical Committee was given able and expert assistance by Robert Dikkers, Design Engineer for the National Concrete Masonry Association and Gordon Stepanek, formerly Masonry Specialist for the Portland Cement Association. The Section "Control Joints for Concrete Masonry," was prepared by Gordon Stepanek from research data and observation of successful construction practices.

The first printing of SUGGESTED SPECIFICATIONS FOR CONCRETE MASONRY AND CONTROL JOINTS FOR CONCRETE MASONRY was made in January 1962 and subsequently additional reprints were made in May 1962. Suggestive of the acceptance and the popularity of the publication are the numerous requests for reproduction permission from concrete masonry associations in other States . . , a few of which are: Ohio Concrete Block Association, Concrete Block Association of Western Pennsylvania, Concrete Products Association of Washington State and The Concrete Masonry Institute of Connecticut. To date, approximately 12,000 copies have been printed for distribution in Indiana.

All Indiana Architects have received one or more copies of this ICMA publication and additional copies are available on request from the ICMA Office at 5231 North Winthrop Avenue, Indianapolis 20. Requests for the specification and control joint publication will be handled promptly as will all other requests for pertinent information concerning concrete masonry.

Continuing research and improved manufacturing techniques will, of course, call for revisions in this publication and as this information becomes available, the benefits of this knowledge will be disseminated to architects in future revised issues of SUGGESTED SPECIFICATIONS FOR CONCRETE MASONRY JOINTS FOR CONCRETE MA-SONRY.

Effloresence

(continued)

(from Page 19) of muriatic acid (5 to 10 per cent). Before an acid treatment is used on any masonry wall, the acid should be tested on a small, inconspicuous portion to be certain that there is no adverse effect.

Before applying acid to the surface, always dampen the wall with clear water. This will prevent the acid from being absorbed deeply into the wall where it may do substantial damage. After the acid treatment, the surface should be thoroughly flushed with clear water to remove all acid.

Since an acid treatment may slightly change the appearance of masonry, the entire wall should be treated similarly to avoid discoloration or mottled effects.

A green stain sometimes appear on buff or gray face brick to tile. This may be the result of vanadium or molybdenum compounds in the clay. Never treat such stains with acid, for the acid will react with these compounds to produce an insoluble brown stain that is extremely difficult to remove.

The proper method of removing the green stain is to wash the surface with solution of 1 part sodium hydroxide crystals (lye) and 10 parts water. The wall should be first dampened by spraying with clear water and then washed with the sodium hydroxide solution. A thorough flushing with clear water should follow.



ST. PIUS X COUNCIL, K of C HALL, Indianapolis Architect: Fran E. Schroeder & Associates,

Indianapolis

An interesting and dramatic screen wall of open core and "Y" blocks in vertical stack pattern provides for effective separation of activities while maintaining the open feeling of space.

> Some Recent Examples of Architectural Expressions in Masonry . . .

> > FORT WAYNE HORIZON HOME, Fort Wayne Architect: Courtney Robinson, AIA,

Fort Wayne

Contractor: Don Shive, Fort Wayne Walls of split block and a masonry screen frame a warm and inviting patio. The screen includes four inch high masonry units and pierced or screen block.



JUDD DRUG STORE, Elkhart Architect: L. S. Emmert, AIA, Elkhart The druggist' mortar and pest'e used in this drug store motif were created with Hi-Lite block and regular block sand-blasted to achieve the pestle effect. To create harmonious con-trasts, the architect also used Shadowal block and eight-inch square units, all in horizontal stack bond patterns.





CAROUSAL RESTAURANT, Fort Wayne Architect: Courtney Robinson, AIA,

Architect: Courtney Robinson, AIA, Fort Wayne Contractor: C & C Consruction Co., Inc. A highly effective interplay of related materials and textures is evident in this interior photo. The fireplace wall is split block, while the back wall is of concrete brick with extruded joints framed by a diamond pattern Shadowal block in horizontal stack bond.

DR. BEN FISHER RESIDENCE, Indianapolis

DR. BEN FISHER RESIDENCE, Indianapolis Architect: Harry Cooler, AIA, Architects Coordinate, Indianapolis An unusual wall of depth and character was achieved by offsetting standard blocks one inch in overall wall pattern. Horizontal stack bond patterns were used on both offset and flush wall.



JENKS REST PAVILION, COLUMBIA PARK, Lafayette Architect: George P. Beihl, AIA, Lafayette A haven for the weary wanderer is encased in light and airy walls of "Y" screen blocks laid in a creative vertical running bond pattern.



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ISA Horizon Home

The Indianapolis District, Indiana Society of Architects, has announced plans for a model home promotion scheduled for April and May, 1963. Aimed at increasing public awareness and appreciation of good contemporary design and quality construction products and practices, the promotion includes an "open house" of a completely furnished and equipped model home.

This home, which is now being built, is a low-silhouetted contemporary home designed for today's modern modes of living, and is situated on approximately two acres of rolling ground northeast of Indianapolis (5230 East 76th Street). Containing some 3400 square feet of living space, plus double carport and two large exterior terraces, the home includes living room, family room-dining room, kitchen, three bedrooms, two baths, activities room, office, shop and mechanical and service areas.

The architect for the home is Mr. Fran E. Schroeder, AIA, of Fran Schroeder and Associates, well-known Indianapolis architect. The interior decorator is Mrs. Sallie Rowland, Director of Design, Business Furniture Corporation, Indianapolis, and the landscape architect is Mr. James E. Browning, ASLA, Indianapolis.

In creating this unique home, the architects cooperated with a number of construction industry trade associations, including the Portland Cement Association, the Indiana Concrete Masonry Association, the Masonry Contractors' Association of Indianapolis, the Oil Heat Institute, and the Plumbing Contractors' Association, and with a great many individual firms.

All perimeter walls of the home are painted Haydite lightweight block; the north and west (front) elevations are basically solid walls, the only openings being three fixedsash windows along the west living room wall just below the ceiling line, and two four-foot by eight-foot stained glass window panels facing into the carport. Screen block walls frame the carport and separate it from the front entrance walk.

Block walls also screen the bedroom wing windows to the east, the outside work and storage area on the north, and the south patio. Sliding glass doors open the living room and the family room to this south patio, while other sliding glass doors give access to a private patio outside the master bedroom suite. Despite the large glass areas to the east and south, complete privacy is assured by the careful placing of the home on the lot, and no windows face any other house or building site.

Complete details of the home, the overall promotion and the open house will be carried in a future issue.



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By PHILIP WILL, FAIA Immediate Past President The American Institute of Architects

The Role of the Producer

In spite of the many attempts that are periodically made to manufacture complete buildings, I think we will have little trouble in agreeing that the opportunity for mass production in our industry is limited to parts and sub-assemblies. More and more our buildings are becoming single, specialized use inventions, designed to meet ever rising standards of performance. The cost of human time has been rising so sharply that buildings inefficient to purpose simply cannot be economically tolerated. Furthermore, we believe as an article of faith that a building is a work of art, a creative statement. Therefore, to design this specialized invention and to make of it a work of aesthetic satisfaction, the architect has of the producer and his product certain specific needs if the demands of his client and society are to be met. For convenience, these can be divided into five general categories: (1) performance, (2) cost, (3) producer responsibility, (4) choice and (5) design. And here we come to the essentials of category #1:

1. PRODUCER PERFORMANCE

Risking his professional reputation with every decision he makes, it is the architect's first need that the products he specifies perform as advertised and with no unhappy surprises. Quality must be tested and demonstrated. Frequently, we are asked what tests and demonstrations we will accept. For this, there is no ultimate definitive answer except an order of preference, starting with actual use in buildings over a period of years, followed by accelerated tests conducted by independent laboratories, followed by the manufacturer's own tests. Naturally, our faith in accelerated tests is limited; for time itself cannot be compressed and many failures are intimately related to the passage of time. As we mature, all of us become increasingly conservative. We hesitate to risk new dangers and failures while we are still struggling with those that are old and known.

Of obvious importance to any product is the control of quality. Above all, this should be uniform even if it is uniformly bad. It is even possible for a product that fails uniformly to find its economic use. After all, the success of a scotch tape is based wholly on the fact that the adhesive is of such poor quality that it never fully sets.

We would hope that the manufacturer's eagerness to sell would not lead him to expand his product claims beyond their reasonable use. Would that all literature stated what not to do with a product as well as its infinite virtues.

2. COST

It is the evident and irritating fact that all architects would like to know exactly how much a giran material will cost per unit in place, in a particular building, in a particular place and at a particular time. It is equally evident that few manufacturers or distributors are able or (if able) willing to tell him. As long as this condition exists, no architect can control costs and provide the kind of service to which his client is entitled. This discredits not only the architect but all building and is a major depressant in the economic growth of our industry. This is one of the major reasons people would rather buy automobiles than houses or buy old rather than new buildings. It would seem to me high time an answer to this problem be found. As a starter, I would suggest that quoted prices could be geared to a national index. Even if such prices were given as a range, they could then be translated through an index conversion factor to local costs. While this method may not bring precision, it may at least be the beginning of an orderly method. Certainly the architect could design more intelligently and with proper information on quality could approach in his design the ideal of the one-hoss shay.

3. PRODUCER RESPONSIBILITY

Here we come to a problem area that is probably of deeper concern to all of us than any other I shall have discussed today: the responsibility for product performance. Let's face it. We architects stick our neck way out. If the producers of building components fail to assume full responsibility for their wares, and if anything goes wrong, the neck that is furthest out is chopped off first. Owners indiscriminately sue everybody in sight. The architect is always the first victim he sees.

The courts are getting rougher on architects than ever before. We are held legally responsible not just for design and supervision, but apparently for the performance of all materials and products which go into our buildings. There have been several court cases in which the responsibility and liability pinned on the architect border on the absurd. . . .

Liability insurance is small solace. We must have better cooperation and better guarantees on the part of the builders. Built-in obsolescence and shoddy goods may, as Vance Parkard points out in his book "The Wastemakers," temporarily keep high production going, but in the long run they will not only ruin the reputation of the manufacturers and

Condensed from a speech to the National Convention, Producers' Council.

the people who specify buying these goods, but our national economy and our moral fiber as well.

And in the case of building products, poorly made goods can endanger not only the architect's reputation and pocketbook, but human life.

I speak for all architects, I believe, if I say it is time that your legal agents show the same enthusiasm for the quality of your products as your advertising agents.

If I may coin a phrase, the prime ingredient of any product is the integrity of its maker. It doesn't take the architect long to discover which manufacturers do and which do not provide service and make good on their product failures. I venture to say that we actually place more faith in reputation than performance guarantees, important though the latter be.

Any management consultant will tell you that the first responsibility of any enterprise is to stay in business. With this we must agree, if no other reason than that we wish to be assured of the continuing availability of service and replacement parts. Equipment in particular is now far too complex to be repaired by the village blacksmith and there is nothing so frustrating as to be stuck with broken down mechanical equipment that has been orphaned by the death of its parent company.

Also, under the heading of Producer Responsibility, I would like to suggest that they must control the uses to which their products are placed. Granted this is not easy, effort must nevertheless be made even at considerable pain to the sales department. There are examples of products that have been nearly destroyed through uncontrolled sales and improper use. It has, for example, taken years for the porcelain enamel industry to recover from its initial association with gaudy gas stations and cheap hamburger stands. As further gratuitous advice, I would like to suggest to some of you who are members of trade associations that many architects are losing faith in the performance standards that you set for your members. Many of us have come to believe that quality standards are set not for the good of the industry but rather to permit the largest possible association membership, the standards being olwered to admit to membership the least qualified producer. Unhappily, therefore, many associations, because they have not done the job of elevating their standards of performance (as proclaimed in their articles of foundation) fail to justify their existence.

4. CHOICE

As you know, it is motor car history that Henry Ford very nearly lost his market for cars by insisting that his customers could have any color they wanted so long as it be black. The same danger threatens products for building. If you accept the thesis that buildings are (or should be) complex, single purpose inventions, individual works of art, then variety is a must. Depending on the product, we need choice in dimension or capacity, color, texture, methods of installation or application. Of course, we realize that this means increased cost but it is nevertheless worth it and, in fact, essential if the product is to be sold.

5. GOOD DESIGN

Contrary to the apparent opinion of many of my engi-

neering friends, good design is not solely the ultimate of utility or efficiency. Good design is by its nature a compromise involving (in addition to utility), cost, appearance, and many other factors having to do with distribution and relation to other building components.

In seeking good design, we would like to suggest certain criteria:

Modular Dimensions—Modular measure has now been an industry objective long enough for us to regard it as basic in the design development of any building component. Except in rare instances, it is difficult to understand why any new product should not be related to the 4" increment. Perhaps someone will explain to me why for example, asphalt tile is still made in 9" squares instead of 8" x 8".

Three years ago I started a small storm in the ceramic tile industry by asking why wall tile is still made $4\frac{1}{4}$ " x $4\frac{1}{4}$ " instead of 4" x 4" including joint.

Coordination with Other Building Components—Not only are we concerned here with dimension but with methods of attachment so that the product can fit naturally with the many conditions it will be called upon to meet in building construction. It would be helpful here if all product literature made clear what aspects of the product are basic and fixed and what parts may be varied to suit design requirements.

Of increasing importance is chemical affinity. Probably all of us have learned to be respectful of electrolysis. What with all the new products coming on the market, whose beginnings are lost in the chemical laboratory, the task of the designer is becoming increasingly difficult and demanding. He needs to be warned of the possible chemical interaction of the adjacent materials and to that complex and increasingly lethal gas . . . commonly known as "air."

Integration of Components—Of increasing significance in construction is the integration of components under single producer responsibility. If we were not accustomed to it, the manner in which we still build many doors and their openings would seem insane. The frame comes from manufacturer A, the door from B, the hardware from C, the glass from D, the erection is accomplished by Mr. F. and finished by Mr. G. All this after templets have been shipped back and forth and shop drawings checked at infinite pain.

A further example is the curtain wall. Fortunately, a number of forward-looking companies are offering an integrated service taking full labor and material responsibility for the entire exterior skin including mullions, panels, insulation, glass, doors, hardware, etc., etc. In our own practice, we make centralized responsibility for this part of the building mandatory regardless of the number of "subs" that must be assembled by the curtain wall prime contractor.

Full Exploitation of the Inherent Qualities of the Constituent Materials—Perhaps no greater crime against good material by trying to make it look like something else. Happily, this trend is dying and we find more and more honest attempts on the part of producers to take maximum advantage of the basic nature of the materials that make up their product. There is less an attempt to make linoleum look like marble, wall paper look like wood.

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In creating the distinctive 1963 Horizon Home sponsored by the Indianapolis District, Indiana Society of Architects, architect Fran E. Schroeder chose lightweight concrete blcck made with Haydite aggregate for all perimeter and screen walls. Erected in a horizontal stack bond pattern, the block when painted will provide the finished wa'ls both inside and out—beautiful, functional walls at the lowest possible cost.

And in this unique home, even the floors and basement ceiling are built around Haydite filler block and precast concrete joists.

Haydite aggregate is crushed high grade shale which has been rotary kiln-fired. Lightweight aggregates reduce the weight of a standard 8-8-16 unit from approximately forty pounds with sand and gravel aggregate to twenty-four pounds—a reduction of almost 50% in the dead load on a structure. At the same time, the fire resistance, sound absorption and thermal insulation of concrete masonry units are greatly improved.

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What Is "Lightweight" Block?

An implied definition of a "lightweight" concrete block is simply any unit made with lightweight aggregate, conforming to the requirements of ASTM C 331-59T. A quick perusal of the ASTM specification show very broad limits, indeed.

Lightweight block may be known to an individual by the misnomer, "cinder" block, which to him is any block made with aggregate other than that used in "cement" block. The more knowledgeable identify lightweight block in terms of the lightweight aggregate used, e.g. slag block, Haydite block, shale block, pumice block, Besslite block, Waylite block, Solite block, etc. Notice the confusion of trade names with basic materials.

A mason may consider any 8-8-16 unit, weighing less than, say, 33 lbs., a lightweight unit. But some units weigh as little as 18 lbs. and here too we have quite a range of possibilities.

A new definition working its way into specifications sets a maximum weight limit on the block mix concrete of, say, 105 lbs. per cu. ft., and this begins to narrow the meaning.

Statistically, "lightweight" C/M adds up to well over 50 percent of the total concrete masonry production. Its importance is well established and its acceptance today is closely tied to the spectacular advances in concrete masonry in the past decade. Lightweight concrete block, in particular, has had highly satisfactory usage in exposed walls in the finest of structures-schools and churches, homes and apartments, offices, stores, recreation centers and restaurantsin fact, wherever the architect is interested in achieving function and decor with one and the same material. The lightweight block provide intriguing natural texture, they have vastly improved fire resistance, sound absorption and thermal insulation, there is less weight to handle and reduced dead load on the structure. All of this is achieved without impairing strength or any of the other favorable features long associated with concrete masonry.

The architect is primarily interested in the appearance of the finished concrete block wall. He expects the units to have true dimensions. He selects a texture which may be open or coarse, closed or fine, or intermediate, and counts on uniformity from block to block. Certainly no smears or slick spots are anticipated on the exposed faces to mar the texture. Good workmanship is needed to achieve uniform, well-tooled martar joints, and to express the designs and patterns conceived. Generally, also, color harmony and compatibility with other materials is desired.

With integrity and honesty on the part of the general contractor, the mason sub-contractor, and the block producer all of this may be achieved without the architect's concern over basic materials and manufacture. However, his interest in the lightweight aggregate materials and the method of manufacture will in large part help his understanding of what can be achieved and how best to reach a desired end result.

While lightweight concrete masonry is often considered initially on the basis of appearance, it should be realized that it also has many technical values which play an important part in the wall, and which in numerous cases dictate its use. Now, on the other hand, the architect is much concerned with the individual units and their properties of fire resistance, acoustics and heat transmission. He wants more than just the loose phrase "lightweight concrete masonry" in his job specifications in order to meet his design for any or all of these properties. He should be fully aware that the broad definitions and specifications that opened this discussion permit much latitude in types of materials and in combinations of materials, and that quite some deviation in design properties are possible in so-called "standard" lightweight concrete block.

For example, a lightweight block containing a large proportion of natural sand or other normal weight materials will certainly not have the characteristics of an all-lightweight aggregate block, yet the terminology does not make distinction. Fire resistance, thermal insulation and sound absorption will be lessened to an extent dependent on the degree of blending. Obviously, also, weight will be increased, and if the architect is concerned about these characteristics, as he should be, he will consider some weight limitation in his specification.

Again, sound absorption coefficients of a concrete masonry unit, of any basic lightweight aggregate, can be made to vary over a wide range. Where sound deadening in a room is a vital consideration, care needs to be taken to assume a value from research reports which compares a unit of similar aggregates, textures, densities and mix proportions.

These examples emphasize the need for the architect to carefully analyze the data presented to him on the technical properties of a masonry unit. It is essential that the absolute values and coefficients that he uses are correct, conservative and representative of the product he plans for his structure. Also that valid comparison is made between one material or product and another with respect to a given property. And finally, that the block furnished are really those he had in mind when he made his design.

All of the burden should not be the architects. The material suppliers, the block producers and the mason subcontractors should honestly try to achieve and express the architect's design concepts. Greater understanding and cooperation between all parties involved will lead to improved performance of lightweight concrete masonry and continued increase in its applications in the building industry.



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(from Page 13) than the life expectancy of the employee, or the joint life expectancy of the employee and his spouse.

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One of the most talked about new buildings in Indianapolis, Indiana, is the gleaming Capitol Avenue Professional Building.

Because much of the impact of the professional building depends on the vast areas of exposed concrete, the architects depended on Desco coatings to protect and beautify these surfaces. North and south elevations and the equipment pent house received Desco Tonecrete which was applied in a specially formulated "rice paper" color. The upper sides and edges of the shadow ledges were coated with Desco Neolon in a handsome charcoal shade, providing a sharp contrast to the other planes of the building.

By specifying Tonecrete, the architects achieved the lowest cost inorganic coating available. And Desco Tonecrete will prevent the possibility of unsightly "film failures" in the Professional Building by allowing the normal transmission of moisture vapor.

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Capitol Avenue Medical Building

People driving past the recently completed Capitol Medical Building at 1815 N. Capitol Avenue in Indianapolis, see a structure which is one of the finest examples of all-concrete-masonry construction in the area. As far as in known, the six-story office building is the largest and tallest structure in the state where exposed concrete block have been used for the exterior walls.

Architectural credit for this innovation goes to Fleck, Quebe & Reid Associates, Inc., of Indianapolis.

The simple, quiet dignity of the warm toned exterior concrete block, with its sense of permanence and long life, serves to convey and emphasize the proper atmosphere needed for doctors' offices.

"Concrete masonry was selected as the principle building material because of its durability, low maintenance characteristics, economies of construction and esthetic qualities," according to John Fleck, A.I.A., of Fleck, Quebe & Reid. "As the building was privately and speculatively built,



economy was a prime consideration. It was decided the entire exterior would be concrete block, laid in stack bond for modern appearance and greater strength. All exterior block were coated with light colored polyester weather-proof coating, and the resulting finish reveals the texture and variegated appearance of the original concrete block."

A solid concrete block wall was used on the short east and west ends to give lateral stiffness to the structure and eliminate undesirable street noises. Face brick were added to the exterior of these ends to provide contrast in appearance.

Alternately spaced along the longer north and south sides are 8 foot panels of concrete block and 2 foot floor-toceiling windows. This arrangement of split windows and concrete masonry cuts down considerably on the heat loss and heat gain. Also, the U factor has been reduced to only .12 by backing up the concrete block with Styrofoam insulation.

"The weight of building material is always an important consideration," architect Fleck said, "which is another reason for our using concrete masonry."

The new and unique lift-slab method of design and construction was used in the erection of the Capitol Medical Building. After the foundations and footings were installed, columns were set on the footings to form the frame work.

A reinforced concrete slab was poured around the columns to form the ground floor. The top of this slab was coated with a wax substance to prevent sticking and another slab poured directly on top. This was repeated—one slab for each floor, plus the roof.

After curing, the slabs were raised by hydraulic lifting jacks atop each column. All were lifted at one time and as the bottom slab reached its floor level, it was wedged into place and released from the lifting action.

The concrete slabs extend 5 feet beyond the exterior wall on the north and south sides to form overhead sunshields for each floor. In addition, screens of anodized aluminum located between the windows serve both as sun screens and decorative features.

The offices of Fleck, Quebe & Reid Associates are located in the building and architect Fleck comments: "With the building having been occupied for quite a few months, we are more sold than ever that concrete masonry was the best type of construction. Everything has worked out to our entire satisfaction."

General contractor was Glenroy Construction Company and masonry contractor was Herschel W. Hunt Company.



Memorial Hospital of Floyd County, New Albany, Ind. Architects: WALKER, APPLEGATE, OAKES & RITZ, INC., New Albany, Ind. Mechanical Consultants: SOUTHERN ENGINEERING COMPANY, Louisville, Ky.

Air conditioning for summer comfort and heating during cold weather is done with clean, dependable, low-cost Natural Gas in this modern hospital.

Three 368 hp. gas-fired boilers supply steam for air conditioning and heating in both the original structure and the new addition now in the course of completion.

Steam at 12 psig is used to operate two absorption type generators, each with a capacity of 310 tons of refrigeration. These generators supply chilled water to the air conditioning equipment.

Steam is used in the heating coils of the air handling equipment, in hot water heating convertors and in steam heating equipment. The boilers also supply steam for water heaters, sterilizers and kitchen equipment.

INDIANA

The surgery, nursery and all interior rooms of the new addition are conditioned by high pressure, double duct reheat units using all outdoor air and providing cooling, humidification, heating and electrostatic cleaning.

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Surveilance and Review

(Continued from Page 7) over the past ten years presiding, in a journalistic sort of way, over the burial of some of the finest farmlands in the United States. These burial ceremonies are generally known as subdivision, and as a reporter I have been called upon to make remarks, fitting or otherwise, about the late lamented, his heirs and successors. Instead of covering the remains with flowers, we cover the farmland with asphalt driveways, concrete streets, brick patios, cook-outs, drive-ins, deep-fries, Dairy Freezes and high buildings. Out there where the septic tanks gurgle, where the speculators lie in wait for the capital gains, we are creating our new urbanized areas.

An urbanized area, as you know, is one in which we substitute traffic jam for forest preserve. It is former pastureland where city folks seek to pay off their mortgages in genteel company and photogenic surroundings. It is land where five acres are made to do the work of one; where one husband does the work of five servants; where field larks are replaced by Thunderbirds; where the straight furrow has been replaced by the wrinkled brow; where man and nature can live in sweet harmony only so long as the powermower can be persuaded to function.

The second great change has been the injection of the word "ought" into the market place for land and therefore into the practice of architecture, the decisions of city planners, developers and indeed all the rest of us.

The chief yardstick used until the 1950s in the United States to determine what would be done with city land was its price. If a man wanted a downtown corner badly enough, he paid a high price, then built a tall building hoping for high rents to repay his investment, with profit. Nothing worked so well as the free market in determining how land would be used. Price was umpire, mediator, arbiter and ruler. Price was impartial, objective, relentless. You paid your money and took your choice. Land was worth what a willing buyer would offer and a willing seller would accept. The "highest and best use" of land was whatever would produce the highest rent or maximum sales price. The lesson of the market place was: if you can't pay the price, stay out of the game.

The market place for urban land in America has periodically been invaded by new influences, and a variety of manipulators. Congress manipulated the price of land in the first place by selling land wholesale to speculating companies who laid out cities, sold lots, and established the basic pattern of land use and development. The Ordinances of 1784-87 helped carve the wilderness into negotiable squares of land. Once the government's help in making land available to the market was no longer needed, the market place took over.

Since 1950, however, thousands of parcels of land in redevelopment areas have been appraised, bought, cleared, sold, leased or designated for future action as part of the urban redevelopment process. It is a massive exhibition of intervening in the market place for land. By 1961 it was estimated (NAHRO **Renewal Newsletter** December 5, 1961) that "25,000 acres of slum or blighted land are being cleared by 550 redevelopment agencies."

LAND PRICE

Not only is price of such land determined by a formal process requiring professional appraisal and possibly court action; but the land is put to new uses which may have little to do with the maximum dollar value.

Price is not so much what a willing seller will accept, but the amount an unwilling seller is forced to take under threat of condemnation. Future use is determined not so much by the buyer's anticipation of profits, but by his knowledge that he will turn it over to a third party at a loss. The buyer, i.e., the city through its redevelopment agency, is acting as middleman. The third party will not only make a profit but must obtain that profit by using the land in a manner previously determined by the mayor, city council, redevelopment agency, and a host of other individuals in public office and outside as well.

In sum, the "highest and best use" of land—and therefore its price—is no longer necessarily what the market place says it is; it is being prescribed by what public officials and specialists outside the market place think it **ought** to be.

The third great change is in the **rate of change**—the speed with which buildings are built, and physical environment radically or cataclysmically changed, for better or worse.

I have watched the impact of excavation contractors on the appearance, livability and water drainage patterns of a community. This is a much-used symbol for discontent today: If we don't like a public official we say he is "bulldozer-minded." Bulldozers so often serve as the vehicle to destroy living things—they knock down trees, kill shrubs, fill up ponds, cover up springs. Whatever they do, they do it quickly.

This speed is both disturbing and stimulating. Most of us are impressed by it. But we cannot escape the unexpected side-effects, the ripple-effects, the economic and social reverberations that come from physical changes which outstrip the capacity of society to adjust, accommodate, to observe, to judge and to exert pressures while those changes are taking place.

The so-called "Freeway Revolt" which took place in San Francisco in 1958-59 shows what I'm talking about. In this instance, the design of the Embarcadero Freeway which cuts across the foot of Market Street in front of the Ferry Building, was "upgraded" with little advance notice. "Upgrading" is a process—often carried on in secret—whereby it is decided that something not yet built will be built even bigger. The "upgrading" was done by the State Highway Department and it caught the City Planning Department flatfooted. They had been counting on a one-level, four-lane job which they figured could be "sold" to the citizens. Instead, the "upgraded" job was two levels, eight lanes, about five stories up in the air. When the sketches were published, that's where a lot of important citizens went—straight up in the air.

That wasn't all. The new plans for a Western Expressway showed a big cut right across the famous Golden Gate Park. A tremendous controversy over design began to develop. One basic fact was that the Embarcadero Freeway design was offensive to many people; and the way in which it was dumped on the public as a **fait accompli** was even more offensive. The citizens put pressure on the Board of Supervisors and in January, 1959, the Supervisors adopted an official policy "opposed to the construction of all freeways contained in the San Francisco Master Plan."

SPEED NEEDS SURVEILLANCE

All this change at great speed requires, I believe, much more **surveillance** by the public, the press, and by architects over the whole process of city-building and its endproduct. I hope I can persuade all of you that the architect, the city official, the building client, and the public at large will benefit from **more critical surveillance** of both the process and the final product.

When I mention "surveillance" I am talking about constant and critical reporting, not only in the press but in official and professional reports, on the actual functioning of new buildings. How do they look? How do they work? What are the good and bad points? What was added during the construction; what was changed? How does the finished building compare with the architect's original drawing, on which the successful passage of the last bond issue was based?

I realize that the way of the critic is difficult in our society. You know the old saying: "He who can, does; he who can't teaches; he who can't teach, criticizes." The Romans had a phrase for it: "Facilius est destruere quam construere." It is easier to pull down than to build up."

Nonetheless, the role of the interpreter and critic is a useful one not only in architecture but in covering the whole art of city building. I believe the professions of architecture and of journalism have an equal obligation to develop and emphasize the role of the critic in improving our cities.

PURPOSE OF CRITICISM

The purposes of criticism certainly include these:

1. To identify, describe and hopefully to kill off the weeds growing in our cities—the slums and their causes; the slum-builders and their allies; the jerry-builders and their accessories; the cheats, crooks, despoilers and uglifiers.

2. To encourage the best of contemporary design, planning, restoration and innovation by singling out the un-sung and un-heralded examples of good design. I know from experience that there are hundreds of wonderful examples in every city that need to be recorded, described, photographed.

3. To provide to the architect, the planner and the city official a new and broader audience, well-informed and able to make mature judgments. I have had the experience, common to many writers, of having people say "You know, I've passed that place a hundred times and never gave it a glance until your paper published the story of its history."

4. To help educate the consumer of urban design, the consumer of the future city. These are the millions who must live with, look at and use what architects design, what their clients build.

In the end, this is the great function of us all—inform and enlighten the public as to what their choices are now, and what they might be in the future; and to widen their possibilities of choice.

In order to do this, I think we should add something new to the building process. I call it the final step—functional review. After every building of any importance is finished, occupied and has been used for some time, there should be a formal review instituted by the client or the insuring agency—by FHA, the Urban Renewal Administration, Bureau of Public Roads, City Council or other appropriate body.

This review would compare the finished product with the original plans; it would include interviews with the users and with the neighbors.

The purpose should always be to learn lessons for the future; to add those lessons to the public knowledge; to publish and spread the word, to benefit not only the users of architecture, but the designers themselves.

Part one of my prescription therefore is built-in critical surveillance, and review.

Part two is what I call new pressure-points in the design process itself.

This is a fancy way of saying there ought to be new steps in the design process of buildings, neighborhoods, projects, and large complexes of buildings where the forces of competition can get to work.

Specifically, I believe we need far more architectural competitions in the process of building our cities than ever before.

During 1960 and 1961 I spent a good many months as research associate to the Joint Center for Urban Studies, looking at urban renewal projects, and especially studying the so-called developer competitions for choosing the developer of urban redevelopment projects. The results of this study have been incorporated into a monograph, called "The Competitors," which will be published later this year. I took a specially hard look at the competition for the Golden Gateway site in San Francisco, the Farm in Brookline, the Elephant and Castle in London; and to a lesser degree, competitions in Southwest Washington, Society Hill in Philadelphia and Ocean Park in Santa Monica.

THE POWER OF COMPETITION

I came out of this study with a much greater respect for the power of competition in stimulating the creative forces in men; in the capacity of competition to produce new ideas, solutions, innovations; in the generative force in competition which, in each of these cities, produced a wealth of new combinations of people and organizations.

The Golden Gateway competition in San Francisco had this in common with the competition in 1958 for the replanning of the central areas of Berlin; and the 1959 competition for the Elephant and Castle District in London. Each of them brought up a variety of multi-level approaches toward highdensity development; and the separation of pedestrian from vehicular traffic.

All the competitions I have studied have this in common: they have been remarkable occasions for showing the public how many choices it is possible to make in developing one's city. In San Francisco there were nine competitive proposals; in the London competition for the Elephant and Castle site, thirty-five; in Society Hill, Washington Square East in Philadelphia, four; in Santa Monica's Ocean Park, eleven. And of course, in the more traditional architectural competitions for single buildings, the Toronto City Hall and Square competition attracted more than five hundred entries.

I do not believe this is wasted effort, even though the nine competitors for the Golden Gateway project spent over \$1 million for architectural, financial, legal, engineering fees, scale models, brochures, publicity and all the rest.

For the developers, it is merely the cost of doing and getting new business; and a badly-run competition or an inept public agency in charge of competition will certainly discourage developers and architects. But the principle is an admirable one, and the practice is improving.

For the public is shown what the choices are; these do not appear in the newspapers as a **fait accompli** but as legitimate, competitive choices.

But this is not all. I am convinced that the competitive process should be extended to other aspects of city-building, and for illustration I will take one of the most notorious: urban expressways.

Suppose the design of an urban expressway were opened up for a true competition in which developers, their architects and engineers would compete for possession of certain important pieces of city land, through which expressways must be built. The procedure for designing and building highways today is fairly cut-and-dried. The specifications are rather rigid; the job is designed by a hired consulting firm who must operate within the strict confines of state and Federal specifications. The job is put out for bids. The state takes the lowest and best bid, and supervises construction. The great works of "beauty" which we see around us today are the result.

Suppose, instead, that the design of this particular portion of expressway were put up for competitive proposals. The State Highway Department would supply the city with specifications for a traffic corridor of such-and-such a capacity. These would be functional specifications, not descriptive specs.

The city would acquire the property, clear the buildings on it, and put the property up for competitive proposals. At this point, private developers, with their own staffs and consultants of architects, landscape architects, engineers and witch-doctors, would make proposals for the re-use of the





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land. Each proposal would, of course, be required to provide the central traffic-movement corridor to handle the flow.

Each proposal would also be required to follow the general renewal plan for that neighborhood.

But when the competition is over, one developer would end up as the winner, with either the ownership, or a longterm lease on the property.

His winning proposal might include a high-rise office building built on air-rights directly **over** the expressway. It would include a tremendous parking garage of several levels **below** the expressway. If the expressway adjoins an existing city street, the frontage along that street could be devoted to retail stores, with the expressway overhead.

What a contrast with the urban expressway of today! Most of them totally sterilize all city land which they touch. Expressways force city land off the tax rolls, cutting a city's income by millions of dollars when they get close to the central business district. The art of "sterilizing by landfill" is highly developed.

STERILIZING FREEWAYS

42

Present urban expressways not only sterilize tax money, they sterilize neighborhoods and introduce vacuums one or two blocks wide. They provide vehicle movement by destroying the very essence of city life, which is based on human activities.

I maintain that these activities should be permitted to go on in conjunction with expressways, and not be destroyed by them. And I am convinced that the introduction of legitimate, carefully conducted developer competitions could bring the highways into the private enterprise system, and make them subject to the stimulating process of wide-open competitive proposals.

So much for my three prescriptions:

1. A tremendous increase in public and published comment, interpretation and criticism of city development and its products.

2. A built-in system of examining and evaluating buildings, projects, all the products of the building industry after they have been put into use by people.

3. The widespread use of the methods of developer's competition and architectural competition in the process of building our cities.

4. Finally, I am convinced that what is now needed and what has been lacking in the immediate past—is the voice and pressure of a strong national citizens' organization to encourage and to insist on well-planned and beautifully executed public works; and to sponsor private demonstrations and test cases.

At present, any citizens who oppose an unsightly or illconsidered project—the highway-through-the-city-park is the typical case—are weak and divided. Usually they are fighting strong and nationally-organized interest groups. Occasionally they include fanatics (for how else do local protest groups survive?) Often they are too late, too emotional, and inept in public controversy and maneuver. Sadly lacking in positive suggestions or programs of their own, they are usually cast in the unpopular role of being just "a bunch of aginners."

The time has come, and the occasion is ripe, for positive rather than negative action. There must be a national alliance of citizens and citizen groups, with the goals stated above.

That is quite an order. Yet the accomplishments of the Civic Trust in England, our National Trust for Historic Preservation, Action, Inc., and, in an earlier day, the American Planning and Civic Association, show clearly the possibilities. The Civic Trust's demonstration projects, such as the Burslem Market Place renovation described in Landscape Architecture in July, 1961, are fine examples.

We have much to build upon: a host of existing groups with common interest in improvement. We have leagues for the preservation of worthy institutions, scenes and objects; for the wider use of art in everyday life; for renewal, remodeling, restoration. Our national societies of landscape architects and architects have fought significant battles, and will continue in the forefront.

They have hundreds of potential allies: garden clubs and neighborhood improvement societies eager to venture beyond arranging flowers and annual picnics; downtown improvement leagues, citizens' associations for planning, open space committees, local renewal societies, most of them with no national affiliations, their efforts and funds often dissipated in driblets. Many would gladly cooperate in a common cause.

They need a clearinghouse, a reference center, a source of guidance, advice and help. Thus they can rise above local partisanship, be above self-seekers, overcome public apathy, fight uglification, and create a more beautiful America.





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Architect: George Muraki Landscape Architect: Douglas Kelt

