Wisconsin Architect

Public Buildings ● May 1982

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University Avenue Restoration - see article at page one
Skot Weidemann, Photographer

Editor's Note

Included in this month's issue are several stories on public buildings in Wisconsin. Public buildings have historically provided Wisconsin architects with some of their most difficult challenges and Wisconsin citizens with some of its finest design and constructed buildings. Not to be forgotten in this process are contractors, subcontractors, materialmen, and suppliers who can only obtain the work through a low bid, but who are then required to provide the highest quality product.

UW-Madison 1300 University Avenue Renovation: A Pacesetter

The Durrant Group Inc.
Madison, WI
Dubuque, IA

On the outside, it looks much the same as ever. On the inside, the most ambitious renovation/adaptive reuse project ever undertaken in the State of Wisconsin is nearing completion.

It's already become something of a model throughout this country and Canada, and it's a bargain, at that. For $25.7 million — 1/3 the cost of building a new facility — the old University Hospital and several adjacent buildings at the University of Wisconsin-Madison have been undergoing a radical internal transformation. Some 750,000 gross square feet of space in the interconnected 1300 University Avenue facilities are being converted, in two phases, into an integrated, up-to-date teaching and research complex housing 23 health science departments.

The renovation is more the climax than the anticlimax of a two-decade long planning and implementation process involving the expansion and programmatic upgrading of the UW-Madison Center for Health Sciences (CHS). The Center includes the University Hospital and the Schools of Medicine, Nursing, Pharmacy and Allied Health Professions.

As far back as the early 1960's, University and State officials began to plan for the development of a single facility to house the hospital and the academic and research programs of the four schools. The 1968 cost of a four-phase construction project to accomplish this objective was estimated at $120 million.

Planning for a new facility was accelerated under the impetus of a Governor's Task Force on Medical Education in 1967, and later with a 1973 Federal Health Manpower Education Construction Grant which called for an increase in the Medical School's entering class from 103 to 200 students. In all, six studies were completed between 1964 and 1976, the year a Master Development Plan was prepared by the Center for Health Sciences for the renovation project.

By the early 1970's, budget compelled a substitution of the single facility concept with a two-site plan involving construction of a new facility on one site and the renovation of existing facilities — the 1300 University Avenue Complex — on a second site. The divided campus plan was given the go-ahead, and the first of these two projects became reality in 1979. That year, the University Hospital on University Avenue, the School of Nursing and the Medical School's clinical science departments completed their move to the new facility, the Clinical Sciences Center on Highland Avenue at the western edge of the Madison campus.

That relocation left the second site, the 1300 University Avenue Complex containing the former University Hospital and several adjacent buildings, ready for retrofit and reprogramming. The occupants would consist of the Medical School's 10 basic science departments plus the programs of the School of Allied Health Professions, and some research operations of the Medical School's clinical science departments.

Distinguished is a modest word to describe the international stature of those occupants. The programs to be housed in the renovated facilities are at the forefront of research that includes PCBs, Legionnaire's Disease, tumors in children, DNA, and the identification of cancer cell activity. These basic research programs, along with the applied research programs in the new Clinical Science Center with which they work in concert, regularly attract over $12 million in funding for new and continuing research **each year**.

Happily for the fate of the project, seasoned administrators were available at both State and University levels to manage the program development and construction.

Since 1973, William P. Davis, Associate Vice Chancellor for Health Sciences, has been responsible for the program development of both the Clinical Sciences Center and renovation project, working with the University's Office of Planning and Construction, and users. Helmut

Seaman, AIA, of the Division of State Facilities Management, meanwhile has served as Construction Manager for the renovation project since 1976. Under Mr. Seaman's direction, a dozen individuals from the Division have been involved in the project at various stages.

An equally experienced architectural and engineering firm was engaged in 1976. The Durrant Group, Inc., a Madison-based firm which has operated in Wisconsin for 50 years, offered the full service capabilities and the practical experience in hospital, laboratory, educational and renovation projects which the owner believed essential to a project of this magnitude. Vernon L. Worrell, AIA, led the Durrant Group team of architects and engineers.

Despite experienced personnel on both sides, the project posed formidable design and managerial challenges:

— The several interconnected buildings to be renovated and meshed into a single complex were designed by different architects over a period of 60 years, the oldest (A and N Wings of University Hospital) dating back to 1921. The buildings differed widely in quality and type of engineering systems as well as general building condition. Needless to say, they were not integrated in terms of circulation.

— The transformation entailed a complete change in building function and personality. The former cluster of buildings centering on a patient-oriented hospital, relatively private in nature and housing a largely transient population, would now become a teaching and research complex. The new facilities, containing laboratories, classrooms and offices, would be more public and less transient in population, with a clearcut student and research orientation.

— The degree of renovation varied immensely, depending on factors such as building condition and structural flexibility as well as programmatic priority and disparity between before and after functions.

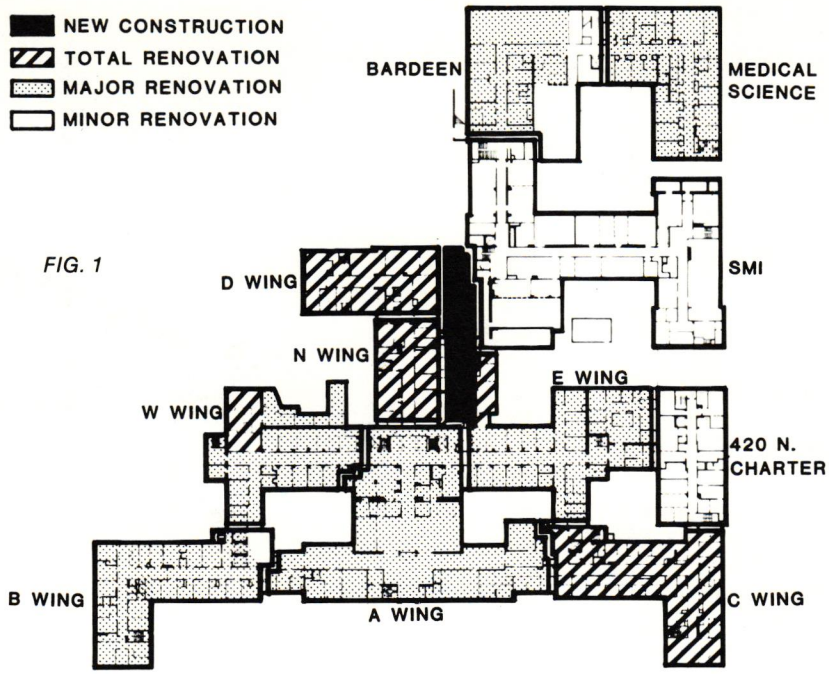


FIG. 1

As a result, remodeling ran the gamut from cosmetic to total interior demolition (see Fig. 1). One particularly dramatic transformation involved the conversion of basement kitchen facilities to student locker space (see before and after views, Photos 1 and 2).

— The project had to be accomplished while the building was occupied, totally or partially depending on project phase.

— The sensitivity and special requirements of user activities posed extraordinary challenges in terms of both architectural and engineering design.

— Because the facility was an existing structure, more demands were made of the architect in terms of understanding and implementing the program than if the project involved new construction. On the other hand, it was more difficult for users to understand the limitations posed by an existing structure. Moreover, many users implicitly expressed the feeling that a remodeled facility, no matter how well done, was "second best" to the new Clinical Sciences Center.

— The large number of users, owner participants and architectural/engineering project team members posed challenges of coordination and schedule management. This was particularly so given the number of contractors (eight primes[1] in the first phase and seven[2] in the second phase).

PHOTO 1

PHOTO 2

— As if these challenges weren't enough, this complicated though substantially pared down program, had to be implemented on a "beer" budget little more than 1/3 the $64-$68 million which was originally estimated to accomplish the task.

To minimize program disruption and also achieve efficient budgeting, the project was divided into two phases, Package A and Package B, which were bid and then constructed in sequence. Package A consists of the former Hospital (Wings A, B, C, D, E, W and N) plus a new "circulation core", as well as the 420 North Charter facility. Package B, largely an engineering retrofit project, consists of the Medical Science, Bardeen, and Service Memorial Institute buildings (see Fig. 1). Package A was bid in Winter 1979 and was occupied three years later. Package B was bid in 1980 and is scheduled for completion in Fall 1982.

To integrate the buildings into a complex with an effective pedestrian circulation pattern, some 18,000 square feet of new construction was added (see cover photograph) to provide a north-south corridor access along the east side of the N and D Wings. The new 5-story "circulation core" links the student laboratory space with SMI and Bardeen while allowing enough space to house elevator, restrooms and a mechanical penthouse.

Besides providing horizontal and verticular circulation, the new circulation core functions at the first floor as a new north entranceway for students. The clear rather than tinted glass that comprises the material of the core was chosen for its ability to distinguish itself from, yet complement, the adjacent architecture.

The design emphasis, sensitive to budget realities, was to utilize the existing complex while respecting and accommodating programmatic needs. Total interior renovation was required only in three major areas: Wings C, N and D. Most of the money was used to upgrade laboratory equipment and the utility system. Everywhere possible, existing materials and structures were retained to permit funds to be used for areas of extensive renovation and for essential programmatic upgradings. Terrazzo floors and base, prohibitive to replace, were instead patched. Oxygen outlet plates were left on the walls of some former patient rooms. Ceilings were left exposed and wallpaper intact.

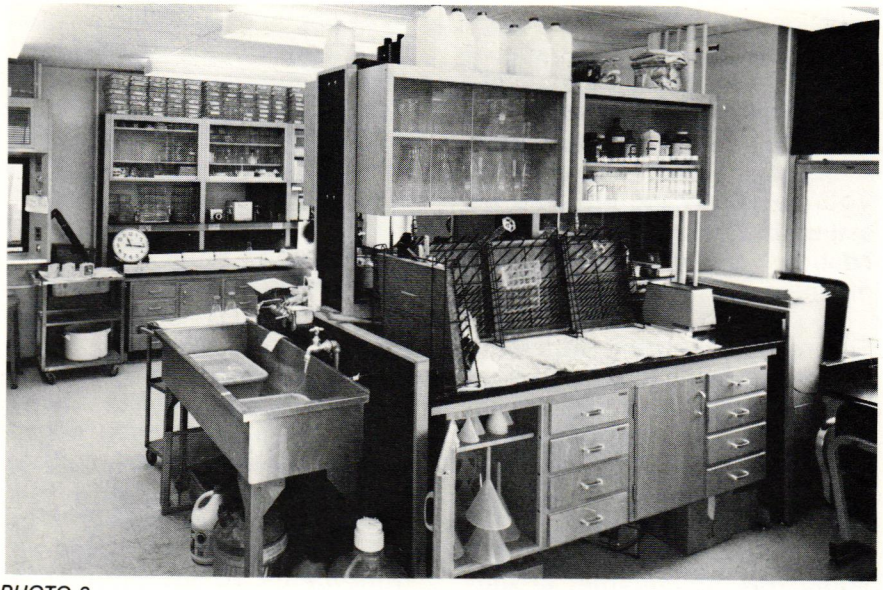
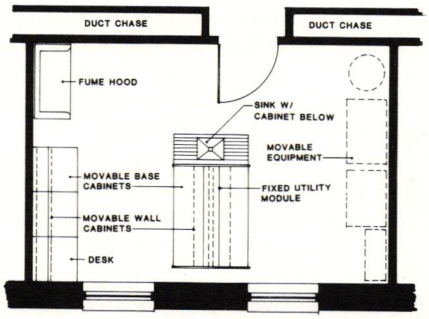


PHOTO 3



TYPICAL MODULAR WETLAB

FIG. 2

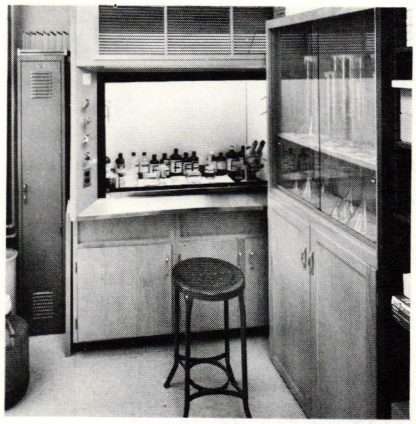


PHOTO 4

But while the "beer" budget limited the extent of cosmetic remodeling, it inspired "champagne" touches in spatial efficiency and flexibility, as well as energy conservation.

Two good examples are the modular laboratory and the flexible casework system, both of which architect designed. To meet owner's need for standardized laboratory space which could adapt to the varying needs of a high turnover of occupants, architect designed a modular work space (see Fig. 2 and Photo 3) which can meet a wide range of research needs.

To provide the flexibility which owner required in laboratory casework, meanwhile, architect worked with manufacturer to design a new type of heavy-duty system which can be assembled or disassembled as needed. Almost $2 million of the flexible casework system is being installed in the research areas. Fixed casework, by contrast, is being used to outfit the teaching laboratories.

Another example, one of Vice Chancellor Davis' favorites, is the utilization of the old wide hospital corridors as space for mechanical chases.

Equally efficient was the introduction of a unitary system for the fume hood air handling units in the individual research laboratories. (See Photo 4).

Additional energy savings were accomplished in a variety of ways. Heat recovery equipment was provided for all systems requiring 100% outdoor air. A highly efficient Variable Air Volume (VAV) system was installed in Package B to provide heating, ventilating and air conditioning in those areas.

Fluorescent lighting with dual switching was installed throughout the complex, and illumination is kept to the minimal effective level. Insulation was provided on virtually all exterior walls in Package A, where the relatively greater demolition made this practicable. In particular, the existence of wall cavities allowed easy installation of insulation material. Finally, connections were provided to the computerized energy control system in the University's physical plant.

It was again the "beer" budget that perhaps inspired architect, working with owner, to make the most of those design opportunities which funding permitted. Thus the original medical library, the partitioning of which had obscured the beauty of the molded plaster ceiling, was remodeled into a single large study area (see Photo 5 and Fig. 3). The room now affords an unobstructed view of the plaster work which has been repaired and restored.

Primary colored paint, meanwhile, was used to brighten the interior as well as to provide interior orientation. Eventually, color-coded floor directories and room designations will be posted in all parts of the complex.

As might be expected in a tightly budgeted project of such size and complexity, occasional difficulties and complaints have surfaced, some budget-related. Funding constraints compelled owner, in consultation with architect, at all stages of the project to pare down program elements which were considered less essential.

Mechanical engineering design in general has posed a special challenge given existing conditions, budget limitations, and the extraordinary complexity and sensitivity of user needs. The specialized, highly diverse requirements of environmental chambers, laboratory and research areas, animal holding space and the complex HVAC systems themselves, have required painstaking, tailored design and coordination.

Despite extensive planning, for instance, unexpected noise accompanied the installation of hoods and ventilation equipment in the laboratory areas — a problem now corrected by architect working with the Division of State Facilities Management and the University.

Unanticipated problems sometimes arose because of hidden existing conditions that did not appear in the "as-built" drawings. For instance, hidden columns and serious discrepancies between floor levels were uncovered during demolition.

On balance, however, Vice Chancellor Davis rates the project as highly — if not amazingly — successful. "The architect has done an outstanding job in fitting the program into a limited space, under a limited budget, in a creative and interesting way. I believe we will have an excellent facility, now and in the foreseeable future," Davis comments.

Despite its magnitude, the project is only slightly behind schedule. Moreover, state taxpayers got a real bargain — a comprehensive remodeling/upgrading of an existing facility for 1/3 the cost of a new facility. And despite the number of participants, "cooperation, generally speaking, has been excellent," notes Helmut Seaman. "We are very fortunate."

The project has already become something of a model both in the United States and Canada. Davis has been called on to share experiences and insights by at least a half dozen administrators in this country and Canada who were or are facing the choice of building or remodeling to accommodate growth and/or facility upgrading.

PHOTO 5

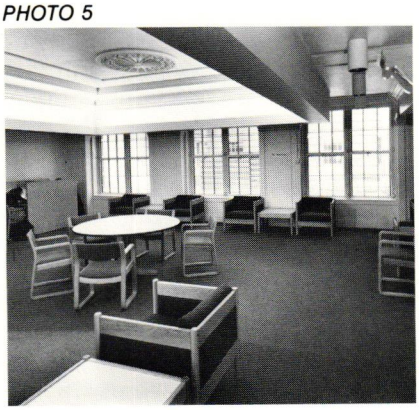
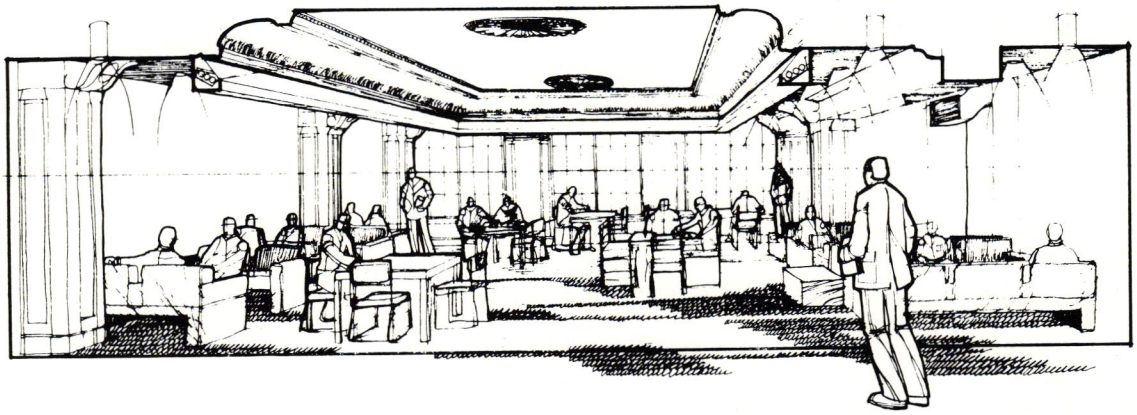


FIG. 3



The project has also been written up in an October 1980 publication of the Association of American Medical Colleges' Group on Institutional Planning.

How relevant, in fact, is the 1300 University Avenue renovation?

With budgets tightening, construction costs soaring, and population stabilizing, particularly in areas such as the Midwest, it appears certain that university as well as other public building needs will increasingly be met by renovation, rather than new construction. Hospitals are often an excellent bet for remodeling, as code requirements have ensured that their basic structural systems are safe and sound. Vice Chancellor Davis guesses that the 1300 University Avenue complex could be recycled and remodeled again in 20 or 30 years time.

To the extent that the 1300 University Avenue complex is a forerunner in the renovation trend, are there lessons to be learned from the project which might benefit owners and architects embarking on similar projects?

Davis, Seaman and The Durrant Group agree on the most important lessons:

— Be flexible. Architect and owner alike should be ready to cooperate in adjusting the program as conditions require.

— Begin comprehensive planning and budgeting at the earliest possible stage. "Owner should be prepared to devote more time to identifying the program than to any other aspect of the project," according to Davis.

Seaman makes these additional suggestions:

— Don't make the phasing schedule unrealistically tight. Unexpected situations will certainly arise in a renovation project of this magnitude and complexity, and they can be addressed much more easily and with less setback to the overall timeline if the schedule has been programmed with sufficient flexibility to handle the unexpected.

— Do (for owners) make sure the architect devotes **more** time to the building survey than you would be tempted to allot; and be prepared to pay the architect for that service. A scrupulous building survey will reduce the chance of costly mistakes at a later stage of the project.

— Do (for architects) devote more attention than usual to coordination of in-house disciplines, especially mechanical engineering, in a renovation project of this size and complexity. Early integration of disciplines with high priority to mechanical engineering can save time and money.

Vice Chancellor Davis offers a few additional tips.

— Don't be afraid to use excess corridor width for a purpose, e.g. for mechanical equipment chases.

— Don't be afraid to leave "open" ceilings with exposed duct work. Lowering and concealing the original ceiling is costly and unnecessary; indeed, retaining the original ceilings creates more space and a feeling of openness Davis believes is highly conducive to productive work.

— Don't be afraid to retain old materials, e.g. terrazzo floors.

— Don't underemphasize the importance of painstaking mechanical engineering design in meeting the highly complex and specialized needs of laboratories, environmental chambers and animal holding spaces.

— Don't rely entirely on "as built" drawings; rather test the systems and structures to be remodeled or demolished as much as possible in advance of actual construction.

Finally, be prepared to get rid of any lingering conviction that a renovation project must necessarily be second best. Or that a building necessarily has a short, fixed lifespan. "We learned that this old building complex could indeed be recycled, quite functionally, relatively inexpensively and very attractively," Davis reflects.

The Durrant Group Has Offices In Madison, Wisconsin and Dubuque, Iowa

Vernon L. Worrell, AIA
Project Director
Durrant Architects, Inc.

Eileen P. Vandoros
Marketing Coordinator
The Durrant Group, Inc.

All photos by Skot Weidemann
Madison, Wisconsin

[1]**Package A Primes:** J. P. Cullen & Son Construction Corp.; J. F. Ahern Co.; Azco Downey, Inc.; Staff Electric Co., Inc.; American Desk Manufacturing Co.; Northwestern Elevator Co., Inc.; Westinghouse Elevator Co.; and Johnson Controls, Inc.

[2]**Package B Primes:** Gilbert Builders, Inc.; Azco Downey, Inc.; H&H Industries, Inc.; Staff Electric Co., Inc.; American Desk Manufacturing Co.; Certified Test & Balance Co.; and K&M Asbestos Removal, Inc.

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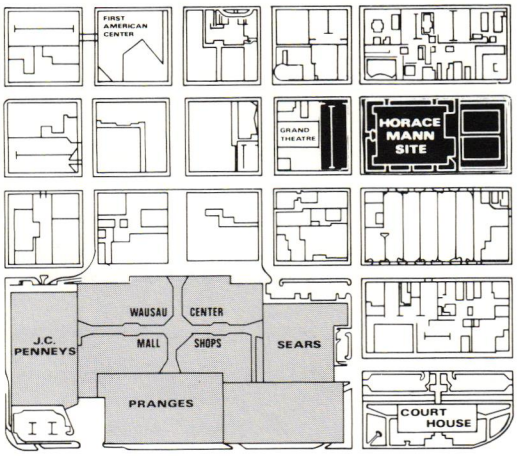
A Development Opportunity

IN WAUSAU, WISCONSIN

A Unique Opportunity: Horace Mann School served Wausau until 1980 when it was closed due to school consolidation. The building and its 3-acre site located within a strong Wausau central business district are available for development. A commitment to consider all potential development proposals allows for many opportunities: condominiums, office space, retail shops, elderly housing, convention center, hotel complex, etc.



Mall Development: The Wausau Center, a multi-million dollar JVJ development covering 16 acres, will open in 1983 with almost ½ million square feet of retail space. It will be a climate-controlled, eight-block complex located 300 feet from the Horace Mann property. Wausau's central business district is strong and thriving and development of the Wausau Center will assure its continued area dominance.

The Community: Wausau, Wisconsin is the regional financial, retail, medical and business hub of Central Wisconsin. The region's rate of development is twice that of the State of Wisconsin and the United States.

The Seller: The property is being offered by the School Board with the assistance of the Horace Mann Property Committee formed of representatives from the School District, the City of Wausau and the Wausau Business Community. The committee will recommend to the School Board a developer or development team capable of producing a proposal consisting of a development plan and program for the site, and of undertaking and completing the project.

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Financial Flexibility: The seller will negotiate terms with developers and will consider industrial revenue bonds, UDAG funding and other available financial arrangements.

The Structure: Built in 1925, this 139,895-square-foot building contains 60 classrooms, a gymnasium and a swimming pool. The exterior is brick, the interior plaster and lathe with terazzo tile hallways.

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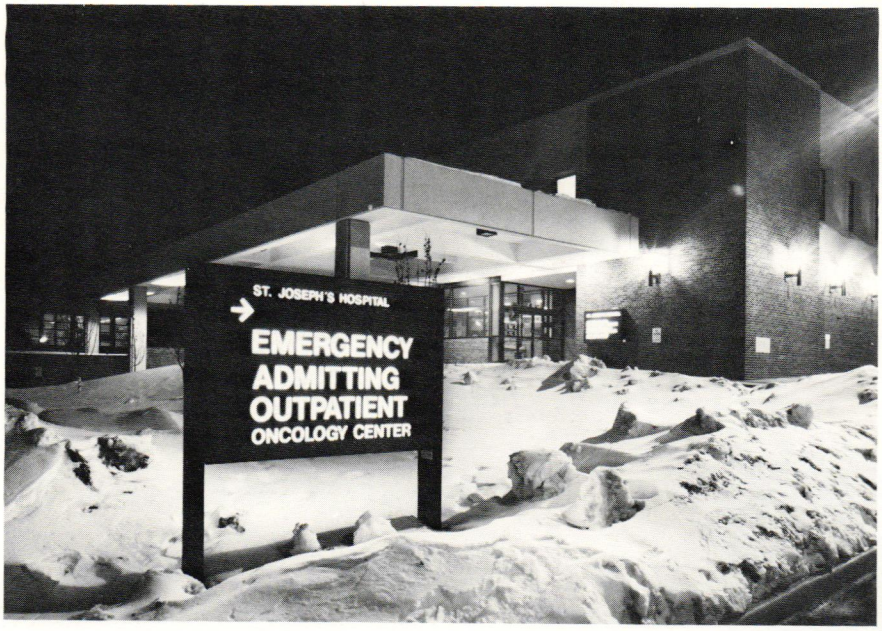
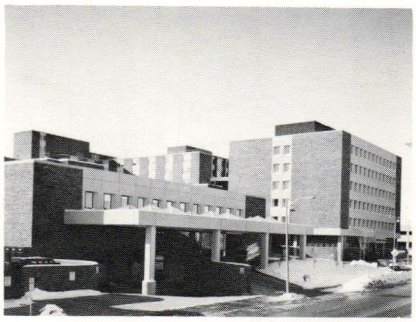


St. Joseph's Hospital of Franciscan Sisters Milwaukee, WI 53218

Plunkett, Keymar, Reginato Architects



This is a typical urban hospital growth problem, built in the 1930's, suffering from insufficient space, fragmentation of departments, and limited land for expansion.

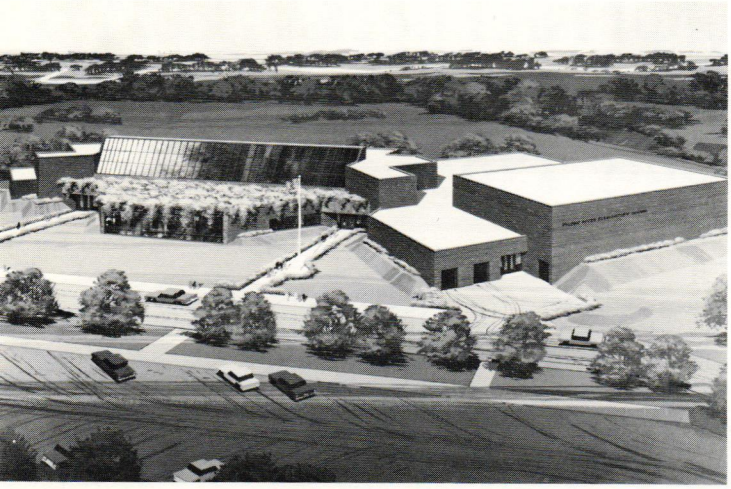
A strategic master plan was needed to solve the pedestrian and vehicular traffic patterns and inter-departmental relationships.

After developing the strategic master plan it became obvious that a drastic and unique approach would be required to unify the hospital. The logical major expansion to the north required a complete interchange of the current traffic flow. The hospitals main entrance was changed from the south residential side of the building to the commercial north side. All incoming patients, emergency and outpatients enter from the north. All visitors and discharged patients use the south entrance. This made better utilization of a new parking structure and skywalk to the hospital.

The new ICU/CCU unit features a circular traffic pattern within a square. Nurse stations at each of the four quadrants have excellent visual control of all patients. Sliding glass doors separate the patient rooms from noise and traffic, and allow complete access and observation.

The first floor features a central admitting area with emergency and out-patient facilities in close proximity for overflow use. The material management receiving area was angled away and screened from the main entrance.

The regional Oncology Center and Doctors' office facility required accessibility to the hospital complex plus maintaining its own separate identity. This was accomplished with skywalks at two levels and on-grade connection.



New Sheboygan School Incorporates Latest Energy-Saving Techniques

Pigeon River Elementary School
Sheboygan, Wisconsin
Principal in Charge: Paul Dinkins
Project Designer: DuWayne Hameister

The Stubenrauch Associates, Inc.

Sheboygan's new Pigeon River Elementary School, completed December 1981, features some innovative solar energy systems, according to The Stubenrauch Associates, designers and architects of the building.

A variety of passive solar systems will contribute an estimated 50% of the heating requirements of the 43,000-square-foot load bearing masonry building.

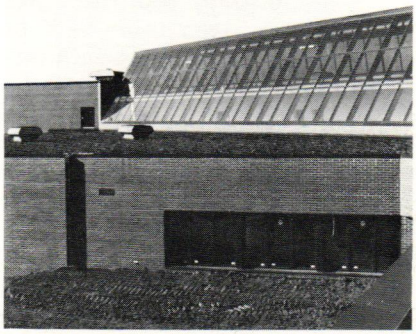
A south-facing Trombe wall collects heat between a sheet of glass and the building's masonry structure. By means of convection, this heat is stored in an air plenum and a precast masonry slab until it becomes necessary to distribute it to adjoining areas of the building.

The precast roof supports approximately two feet of earth. This provides for better insulation (higher R value), thermal lag (a moderator of heat gain and loss), and a heat sink (storage). Use of vines as a plant cover provides natural summertime shading of the Trombe wall and south-facing windows.

The design of the second floor allows solar radiation to pass through the corridor before being absorbed by, and stored in, the load-bearing concrete block wall and terrazzo floor. Motorized insulating window shades reduce nighttime heat loss and prevent summertime heat gain.

The solar attic, similar in concept to the corridor, absorbs the sun's heat in the thermal mass of the space (load bearing masonry). Then, by mechanical means, the heat is distributed to other areas of the building.

The first floor of the $2 million building includes administrative offices, an instructional media center, music and art rooms, classrooms for students in early childhood through second grade, and a gymnasium. The gymnasium was expanded in design to serve the community's adult recreation program. Six classrooms are on the second floor.



Wisconsin Society Of Architects Architectural Salary Survey January-February 1982

The WSA Salary Survey was conducted during the months of January and February 1982 to provide current compensatory information on member firms. The survey was mailed to 150 member businesses and resulted in exactly fifty responses; a response rate of 33%. These responding firms employ 678 people. The major findings of the survey are presented below.

1. Firms with ten or fewer employees constituted more than two-thirds (70%) of all firms responding, and represent almost one-third (27%) of the total number of employees. Five firms, each with twenty-five or more employees, constituted only 10% of the firms responding, but represent almost half (47%) of the total employment. (Tables 1-1 and 1-2)

2. The corporate form of organization was chosen by 82% of all the firms responding. Seventy-five percent of the small-sized firms were incorporated, over ninety percent of the medium-sized firms and all of the large-sized firms. (Tables 2-1, 2-2 and 2-3)

3. The average base salary tended to increase as the size of the firm increased for all employee classifications. Each level of classification is distinguishable from lower levels by significantly larger salary levels; as much as $4,000 annually between principals and supervisors, supervisors and Technical I, as much as $3,000 annually between Technical I and Technical II and as much as $2,000 annually between Technical II and Technical III. (Tables 3-1)

4. The average annual base salary varied markedly between firms of different sizes for the same staff designations. Compared to small-sized firms, the large firms offer from $3,500 to more than $9,000 annually to top staff: principals, supervisors and Technical I. The most extreme variance ($9,420) occurs between principals of smaller and larger firms. The second most extreme variance ($7,824) occurs between supervisors of smaller and larger firms, but the third most extreme variance ($6,095) occurs between principals of middle-sized and larger firms. Variances between firms of different sizes for Technical II and Technical III positions are not as significant. (Table 3-2)

5. The Technical II position is the largest staff designation representing almost one-fourth (24%) of all those employed by these firms, and only 25% of them earn within $1,000 of the average annual salary of $16,954. The smallest staff group was comprised of supervisors and made up only 15% of the total employment, more than two-thirds of the group earning more than $25,000 annually. (Tables 3-3)

6. Only one-third of the firms responding reported gross billings less than $200,000 for 1981. All firms with more than ten employees had gross billings greater than $500,000 and all larger firms reported gross billings of more than one million dollars. (Table 4-1)

7. Two-thirds of the firms do not make cost-of-living adjustments to annual salaries, but they do review their employees for any salary increases on an annual basis.

8. Ninety percent of all firms provide basic medical **and** major medical insurance plans for their employees; over one-third (37%) of these pay all premium costs related to the plans. More than three-fourths of the firms provide some kind of life insurance coverage for their employees and almost one-half (47%) of these pay the total premium costs.

9. Thirty-three (66%) of the businesses responding have insured accident and illness plans; twenty of these firms make the plan available to **all** of their employees. Twenty-five firms pay all costs related to such plans. Only seven businesses pay for physical examinations and about one-fourth of all firms provide any reimbursement for executive medical expenses.

10. Firms responding to the survey reflected several plans for deferred compensation, the most popular methods being profit-sharing plans (34%) and bonus programs (70%) for their employees. Savings plans were contributed to by employees exclusively and if stock options were available, they were usually available only to associates or employees of top management levels. (Table 5-1)

11. Paid vacation policies varied greatly between individual firms. Almost two-thirds (60%) of the businesses provided six or seven days

paid holidays for their employees. Almost one-third (28%) of the firms paid for personal leave time, but information regarding circumstances under which such time was accrued or applied was not adequate enough to denote trends among the sample firms. (Tables 6-1, 6-2 and 6-3)

12. More than one-third (36%) of all firms estimated provisions for extra compensation to their employees from 10-20% of their payroll costs, and almost another quarter (24%) of the firms provided extra compensation of 20-30%.

TABLE 1-1

Actual Distribution and Percentage Distribution of WSA Firms by Employment and Firm Size

Firm Size # Employees	Total # Employees	% Total Employees	Total # Firms	% Total Firms
1-10	181	27	35	70
11-24	179	26	10	20
25+	318	47	5	10
Totals	678	100	50	100

TABLE 1-2

Detailed Analysis of Actual Distribution and Percentage Distribution of WSA Firms by Employment and Firm Size

Firm Size # Employees	Total # Employees	% Total Employees	Total # Firms	% Total Firms
1	1	0	1	2
2	6	1	3	6
3	21	3	7	14
4	16	2	4	8
5	5	1	1	2
6	24	4	4	8
7	35	5	5	10
8	16	2	2	4
9	27	4	3	6
10	30	4	3	6
11-19	113	17	9	18
20-24	66	10	3	6
25+	318	47	5	10
Totals	678	100	50	100

TABLE 2-1

Distribution of WSA Firms by Organization Type and Firm Size

Firm Size # Employees	Proprietorship	Partnership	Corporation	Totals
1-10	6	2	24	32
11-24		1	12	13
25+			5	5
Totals	6	3	41	50

TABLE 2-2

Percentage Distribution of WSA Firms by Organization Type and Firm Size for each Size Category

Firm Size # Employees	Proprietorship	Partnership	Corporation	Totals
1-10	19%	6%	75%	100%
11-24		8%	92%	100%
25+			100%	100%

TABLE 2-3

Percentage Distribution of WSA Firms by Organization Type and Firm Size for All Firms Responding

Firm Size # Employees	Proprietorship	Partnership	Corporation	Totals
1-10	12%	4%	48%	64%
11-24		2%	24%	26%
25+			10%	10%
Totals	12%	6%	82%	100%

TABLE 3-1

Compensation in WSA Firms
Annual Base Salary

(average calculated using total number of employees in each category)

Annual Base Salary	Principal	Supervisory	Tech I	Tech II	Tech III
Average Lowest	$32,184	$24,084	$19,405	$15,056	$10,463
Average	38,227	28,651	22,226	16,954	12,566
Average Highest	45,989	32,555	25,847	19,800	14,766
# Employees	129	100	147	164	138

TABLE 3-2

Compensation in WSA Firms
Average Annual Base Salary by Firm Size

Firm Size # Employees	Principal	Supervisory	Tech I	Tech II	Tech III
1-10	$34,990	$24,245	$20,581	$15,968	$11,571
11-24	38,315	26,617	20,864	16,643	12,457
25+	44,410	32,069	24,065	17,414	13,048

TABLES 3-3

Compensation in WSA Firms
Average Salary Distribution by Staff Designation

TABLE 3-3(A)

	# Employees	% Category	Total % Employees
PRINCIPAL (range $16,000-$100,000)			
$ 0-19,999	1	1%	.2%
$20,000-29,999	31	24	4.6
$30,000-39,999	34	26	5.0
$40,000-49,999	44	34	6.5
$50,000+	19	15	2.8
Subtotals	129	100%	19.1%

TABLE 3-3(B)

SUPERVISORY (range $16,000-42,120)			
$ 0-19,999	3	3%	.4%
$20,000-24,999	30	30	4.4
$25,000-29,999	26	26	3.8
$30,000-34,999	28	28	4.1
$35,000-39,999	13	13	1.9
$40,000+	0	0	0
Subtotals	100	100%	14.6%

TABLE 3-3(C)

TECHNICAL I (range $14,000-35,000)			
$ 0-14,999	4	3%	.6%
$15,000-19,999	31	21	4.6
$20,000-24,999	76	52	11.2
$25,000-29,999	34	23	5.0
$30,000+	2	1	.3
Subtotals	147	100%	21.7%

TABLE 3-3(D)

	# Employees	% Category	Total % Employees
TECHNICAL II (range $11,400-24,000)			
$ 0-13,999	10	6%	1.5%
$14,000-15,999	63	38	9.3
$16,000-17,999	41	25	6.0
$18,000-19,999	45	28	6.6
$20,000+	5	3	.7
Subtotals	164	100%	24.1%

TABLE 3-3(E)

TECHNICAL III (range $7,600-19,000)			
$ 0- 9,999	10	7%	1.5%
$10,000-11,999	54	39	8.0
$12,000-13,999	33	24	4.9
$14,000-15,999	40	29	5.9
$16,000+	1	1	.2
Subtotals	138	100%	20.5%
TOTALS	678		100.0%

TABLE 4-1

Gross Billings for 1981 by Firm Size

Gross Billings	Firm Size by Number of Employees 1-10	11-24	25+	% Total Firms
$ 0- 49,999	2			4%
50,000- 99,999	7			14
100,000-199,999	8			16
200,000-499,999	13			26
500,000-999,999	4	8		24
1,000,000+		3	5	16
Totals	34	11	5	100%

TABLE 5-1

Distribution of Deferred Compensation Plans by Firm Size

Compensation Plans	# Firms 1-10	# Firms 11-24	# Firms 25+	# Firms Involved	% Firms Involved
Pension Programs	6	1	1	8	16%
Savings Plans	2	2	0	4	8
Profit Sharing Plans	9	5	3	17	34
Bonus Programs	23	6	6	35	70
Stock Purchase Options	4	1	1	6	12

TABLE 6-1

Distribution of Paid Vacation Benefits Offered by Fifty Architect Businesses

Vacation Policies	# Firms
1 week during 1st year	5
1 week after 1st year	22
2 weeks after 1st year	19
2 weeks after 2nd year	19
2 weeks after 3rd year	2
3 weeks after 5th year	10
3 weeks after 7th year	3
3 weeks after 10th year	13
4 weeks after 7th year	2
4 weeks after 10th year	3
4 weeks after 15th year	4
Other Policies	11

TABLE 6-2

Distribution of Firms with Paid Holidays

Holidays Allowed	# Firms
0-5 days	5
6 days	19
7 days	12
8 days	6
9 days	2
10 days	1
No response	5
Total	50

TABLE 6-3

Distribution of Firms Allowing Personal Leave Time

Yes	14
No	32
No Response	4
Total	50

TABLE 7-1

Total Extra Compensation to Employees as Estimated a Percentage of Total Payroll

Extra Compensation/Payroll	# Firms
0- 9.9%	2
10-19.9%	18
20-29.9%	12
30-39.9%	10
40%+	3
No Response	5
Total Firms	50

METHODOLOGY AND NOTATIONS

The WSA maintains a periodically updated list of architectural member firms. From this list, 150 questionnaires were mailed. Fifty firms responded, a 33% return. Data is current as of January and February 1982. The methodology for tabulating and reporting is described below.

TABLE 1-1

The firm size is based on the total number of employees in each firm, including principals. The categories are mutually exclusive. Percentage of total employees is derived by dividing the total number of employees in each category by the total number of employees in the sample (678). The percentage of total firms is derived by dividing the total number of firms in each category by the total number of firms in the sample (50).

TABLE 1-2

This is a refined breakdown of Table 1-1. The additional size categories detail more information about the smaller-sized firms. Percentages are computed as in Table 1-1.

TABLE 2-1

Firm size is derived as in Table 1-1. Firms were asked to choose their organizational type on their own from three choices, no definitions were available.

TABLE 2-2

Percentages represent, for each size category, the number of firms in each organizational type.

TABLE 2-3

Percentages represent, for all firms responding, the number of firms in each organizational type.

TABLE 3-1

Staff designations are defined as follows:

PRINCIPAL: owner, partner, corporate officer or participating associate.

SUPERVISORY: general manager, department head, project manager, project architect or project engineer.

TECHNICAL I: senior professional staff — frequently licensed, highly skilled specialist, job captain, senior designer, senior drafter, senior planner, senior specifier, or senior construction administrator.

TECHNICAL II: intermediate technical staff — usually not licensed, including intermediate levels of positions listed in the Technical I designation, or manager of clerical staff.

TECHNICAL III: junior technical staff — not licensed, including junior levels of positions listed in the Technical I designation, secretarial or clerical staff, or office assistant.

The lowest average and highest average salaries were computed by multiplying the average salary reported by each firm under each category by the number of persons in each staff designation in that firm. The sum of these products was divided by the total number of employees in that staff designation for all firms responding.

TABLE 3-2

Firm size is derived as in Table 1-1. The average base salary is calculated as in Table 3-1.

TABLE 3-3(A-E)

These tables were prepared to demonstrate the range of average base salaries within each staff designation category. Percentages within each staff designation makes more easily discernible the most prevalent average salary earned by persons of that staff position. Per-

centages related to the total number of employees represents employment at each of the earnings levels.

TABLE 4-1
Firm size is derived as in Table 1-1. Gross billings for 1981 are presented in relation to firm size.

TABLE 5-1
Firm size is derived as in Table 1-1. The content of various deferred compensation plans was not secured from the sample and the extent of firm investment could not be ascertained.

TABLE 6-1, 6-2 and 6-3
Raw data is presented for review, but incomplete data makes it impossible to draw conclusions regarding vacation trends related to size of firms or other fringe benefits surveyed.

TABLE 7-1
Extra compensation to employees does **not include** annual base salary, overtime pay, vacation or paid sick leave. It **does include** such items as bonuses, any employer contributions to social security, pension, stock options, insurance, retirement, club memberships, automobiles, etc. The sum of these fringe benefits is then compared to the total annual payroll for all principals and employees resulting in the percentage charted.

SOCIETY NEWS

SPRINKLER ALERT

A bill changing the statutory requirements for automatic fire sprinkler systems has passed both houses of the Wisconsin Assembly and has been signed into law by Governor Dreyfus. The essense of this bill is to expand the scope of building types and applications requiring automatic sprinkler systems. Basically the new legislation mandates compliance with BOCA. While this bill is expected to be signed into law before summer, the resulting changes in the building code will probably not be finalized and become effective until late this year or 1/1/83. A copy of the current **draft** of the proposed code revisions required by this legislation is available through the WSA office.

MEMBERSHIP ACTIONS

GEIGER, CATHLEEN ANN, was approved for Student Membership in the Southeast Wisconsin Chapter.

BALCH, HARRY, was approved for Professional Affiliate Membership in the Southwest Chapter.

ECKERT, ROBERT J., was approved for Student Membership in the Southeast Wisconsin Chapter.

MULCAH, GREGORY A., was approved for Professional Affiliate Membership in the Southwest Chapter.

BUETTNER, MICHAEL S., was approved for Associate Membership in the Southeast Chapter.

SOKAL, JOE, was approved for AIA Membership in the Southwest Wisconsin Chapter. (He is a transfer in from Wyoming.)

OATES, JOHN R., was approved for Associate Membership in the Northeast Wisconsin Chapter.

SCHIPPER, MICHAEL H., was approved for AIA Membership in the Northeast Wisconsin Chapter.

H & R BLOCK

They're the ones who have a zillion reasons why you should use their services. There are a bunch of reasons why people should join the WSA/AIA. For instance . . . the WSA receives weekly inquiry from perspective clients seeking architects to provide professional services. The WSA maintains a firm roster (all firms in which at least one principal is a WSA/AIA member), a roster of architects interested in doing residential work, and a roster of architects interested in doing restoration, renovations, and adaptive reuse. Later this year WSA will be providing numerous Wisconsin radio stations with Public Service Announcements promoting architectural awareness and advising individuals that they can contact the WSA office for more information. That information packet will include a list of WSA members.

We don't know if we can top H & R Block . . . but there are lots of reasons to belong to WSA/AIA. Blow into a non-member's ear and get him (or her) to join.

GALLOWS HUMOR??

One architect to another, "What would you do if you had a million dollars?"

Reply: "I'd continue practicing architecture until it was all gone".

FRANK

A Frank Lloyd Wright architectural tour to the Spring Green and Richland Center areas, scheduled for Saturday, June 26, 1982, will be sponsored by Friends of The Meeting House, Madison, in cooperation with Aldebaran Associates, Spring Green.

The tour, "Wright in Wisconsin: Spring Green," will feature visits to five Wright-designed buildings and examples of architecture associated with the Wright organic style, as well as the Wyoming Valley area of the Lloyd-Joneses, the ancestral family of Frank Lloyd Wright.

Beginning at the Unitarian Meeting House, Madison, the itinerary includes the A.D. German Warehouse and Museum, Richland Center, and in the Spring Green area The Spring Green Restaurant, Taliesin Hillside Studio, Unity Chapel, Wyoming Valley School, and Aldebaran Farm, and original Lloyd-Jones homesite.

Fee for the tour is $25, including lunch at The Spring Green Restaurant and admission to all sites. Advance registration and remittance is required by June 19. The tour will leave by chartered bus from the Unitarian Meeting House, 900 University Bay Drive, Madison, at 9 a.m. on Saturday, June 26, with return scheduled for 5:30 p.m. Further information is available by calling 608-233-9774.

PEWS

The original fir plywood bench-pews, designed by Frank Lloyd Wright specifically for the First Unitarian Meeting House of Madison, Wisconsin, are currently being offered for sale to private individuals.

Fabricated by Taliesin apprentices during the later stages of the building project, the benches have been in constant use for nearly thirty years. They have recently been replaced by new benches which followed the original design concept.

The benches, which have been branded on the under side with an authenticating seal, are priced at $175.00 F.O.B. Madison. Full documentation is included with every purchase including an authentic Ezra Stoller photo of the Meeting House interior from 1952. For additional information call 608-233-9774 or write Bench Project, First Unitarian Society, 900 University Bay Drive, Madison, WI 53705.

IDENTIFICATION

Architects are supposed to be great problem solvers. Here's your chance. The accompanying picture was anonymously submitted to the crack investigative reporter of the Wisconsin Architect (with a promise of fame and fortune if it would be published). The problem is one of identification. Murray Kinnich, AIA, is prominently displayed in the picture, along with various souls who are jointly celebrating Murray's birthday party and St. Patrick's Day. There is some controversy over the name of Murray's dancing friend and Murray's friend's association with architecture. One hint . . . Murray's friend is not one of the past presidents of the WSA.

Masonry Institute of Wisconsin

NORBERT J. HYNEK
Executive Vice President

4300 WEST BROWN DEER ROAD • MILWAUKEE, WISCONSIN 53223 • (414) 355-7800

TO: MEMBERS OF WISCONSIN SOCIETY OF ARCHITECTS
AMERICAN INSTITUTE OF ARCHITECTS

We are pleased to announce that The Jefferson Building is one of eight projects selected for "Excellence in Masonry". A representative from Flad & Associates, Inc. describes the project as follows:

> "The Jefferson" to be sited on the west side of Cathedral Square had to be responsive to and compatable with excellent examples of both contemporary and traditional architecture which surround the Square.
>
> The use of brick, on the interior as well as the exterior, was the obvious answer to achieve a sense of maturity and quiet harmony with our neighbors.
>
> We at Flad & Associates, as well as our Joint Venture partners, Frisch, Dudek, & Slattery and Louis Gral Investment Real Estate, wish to thank the Masonry Institute of Wisconsin for this Excellence in Masonry Award."

Congratulations to Flad & Associates, Inc. for "Excellence in Masonry".

Very truly yours,

MASONRY INSTITUTE
OF WISCONSIN, INC.

Norbert J. Hynek
Executive Vice President

. . . IN SIZE

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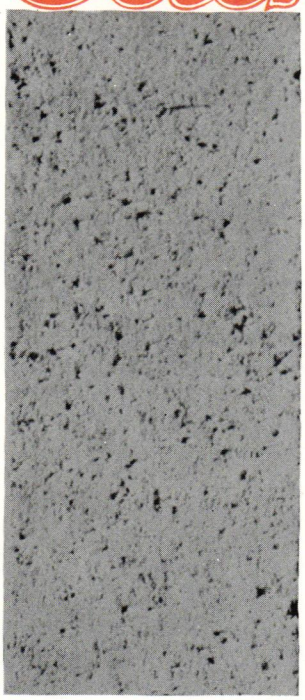

Who could disagree that color is an integral part of design? And whether your design calls for a wide range of color or a narow range of color, BELDEN Brick covers the spectrum. The largest selection of color in the industry, from dusty pinks to light orange to deep reds and blacks. Over 200 variations of brick, including color, texture, and size, help to enhance your design ingenuity.

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THE Belden Brick COMPANY

TROUBLES

You think things are bad in the construction industry. The WISCONSIN ARCHITECT has just learned that the Lionnel Train Company is going bankrupt. In an effort to meet an every changing economy, Lionnel had diversified. Unfortunately . . . they bit off more than they could choo choo.

Cheer up. If you've got a similar story, anecdote, or tale of woe ("or equal") submit to the WISCONSIN ARCHITECT for publication.

QUIZ

Consider the following **hypothetical** situation. Business is slow for an architectural firm. A contractor comes in with a set of plans for an existing building. He wants the architect to trace these plans and process them through the state and local agencies for a new building. The plans had previously been prepared by a different architect.

Question: Any problems for the architect in providing this service?

Partial answer: Yes. Two red flags go up the mast. First of all . . . consider the potential copyright violation. Secondly, simply tracing over plans prepared by another appears to be "plan stamping" (or some derivation thereof) which can result in loss of Wisconsin registration. The Wisconsin laws governing the practice of architecture require that before an architect can stamp plans, the plans must be "prepared by him or under his direction and control". The administrative rules adopted by the Registration Board indicate that "direction and control" mean direct, personal, active supervision and control of the preparation of plans . . ." To simply trace over an existing set of plans appears to create a problem.

You don't have to be a lawyer to practice architecture . . . you just have to think like one.

POLITICAL ACTION

The Wisconsin Society of Architects Political Action Committee (WSA/PAC) continues to solicit contributions from members in order that WSA/PAC can make contributions to candidates for state office. WSA/PAC has an excellent track record and has been an invaluable asset in promoting architectural awareness and sensitivity on the part of members of the Wisconsin Legislature.

But, surprise surprise, money can't buy everything. (Especially when the average contribution from the WSA/PAC to legislative candidates is $40). There is another avenue. With the September primaries and fall elections approaching candidates for public office are practically on every street corner seeking your support and participation. Your time, interest, questions, support, and enthusiasm are an invaluable asset to these candidates. Spend an hour licking envelopes . . . sign a candidate's nomination papers . . . attend a forum presented by a candidate . . . offer to put a candidate's promotional sign in your front yard . . . offer to sponsor a neighborhood forum for a candidate . . . the list is endless. It doesn't take a heck of a lot of effort. If only one person from each of the over 150 architectural offices in the state would perform **one** of these functions the concerns of the architectural profession would be much better understood when the legislature reconvenes in January of 1983.

Support your profession by becoming politically active.

Equally important . . . as you become politically active make sure you register as a WSA Minuteman in order that you can be part of a coordinated effort on Legislative matters of concern to the profession.

You're supposed to look at this sampling of our work.

Badiners, Minneapolis

Dayton's, Minneapolis

Gucci, Las Vegas

THE RATES . . .

BLACK AND WHITE (To Be Used Within One Year)

Size	12 Times	6 Times	3 Times	1 Time
1 Page	$230	$250	$270	$290
2/3 Page	175	195	215	240
1/2 Page	145	160	185	210
1/3 Page	100	120	145	165
1/4 Page	85	105	120	140
1/6 Page	70	85	105	125
1/8 Page	55	70	80	100

SIZES IN INCHES

1 Page — 7'' wide by 10'' high
2/3 Page — 4¾'' wide by 10'' high
1/2 Page — 7'' wide by 4⅞'' high or 3⅜'' wide by 10'' high
1/3 Page — 4¾'' wide by 4⅞'' high or 2¼'' wide by 10'' high
1/4 Page — 3⅜'' wide by 4⅞'' high
1/6 Page — 2¼'' wide by 4⅞'' high
1/8 Page — 3⅜'' wide by 2⅜'' high

PROFESSIONAL DIRECTORY — Business Card Ad Size 3½" x 1⅛"
6 Months — $40.00 Per Month
12 Months — $30.00 Per Month

TYPE OF PRINTING — Offset

PUBLICATION TRIM SIZE — 8½" wide by 11" high

BLEED — 8¾" wide by 11¼" high

COLOR —
AAAA Standard Colors — To earned space rate add $55.00 for each additional color other than black. Ads appearing in any one color other than black will be charged as though it appeared as a two-color ad. Four color ads — Add $430.00 per page to earned space rate. Advertiser must furnish separations, progressive proof and sample or written instructions for color work.

SCREEN — 150 Line

PREFERRED POSITION —
Second and Third Covers — Add $55
Fourth Cover — Add $70
Center Spread — Add $110

INSERTS —
2 Page Insert (1 Leaf) - $215 — Back Up Charge: $105 Additional
4 Page Insert Limit (2 Leaves) - $430 — Back Up Charge: $165 Additional
(Means if you do not have your name imprinted on inserts.)
Charge For Binding In Or Tipping In Insert — $60

Mechanical specifications for all inserts should be ⅛" larger than finished trim. Pages should be flat, not folded, for 4-page inserts. It is not required that inserts be furnished two-up for imprinting.

Each insert counts as one insertion toward earned frequency.

Furnished inserts must be delivered prepaid to printer, folded if printed two sides, flat two-up if to be back up.

TECHNICAL REQUIREMENTS —
Page is three columns wide, each column 2⅛" wide. Camera ready art work to be furnished by advertiser.

PRODUCTION CHARGES —
Advertisers will be charged at the rate of $22.00 per hour for layout, design and other production costs associated with the preparation of camera ready copy.

CLOSING DATES —
Deadline for ALL copy or inserts is the 1st of every month preceding the month of publication.
PUBLISHED THE 15TH OF EACH MONTH.
Ads will repeat unless new ads are furnished by closing date.

CONTRACT REQUIREMENTS —
All contracts are subject to acceptance by Publisher. The publisher reserves the right to refuse or edit any advertisement.

This contract may be cancelled by the advertiser subject to the following:
a. Notice in writing to the Publisher at least 60 days in advance of closing date of the issue from which ad is to be deleted, and
b. Payment of account in full, including the difference between contract rates and short rates on space actually used under this contract.

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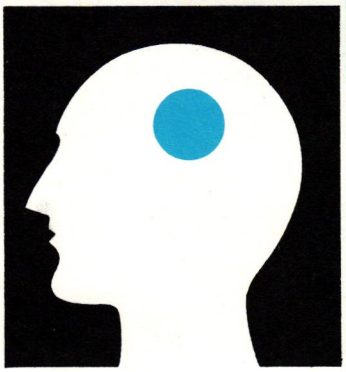
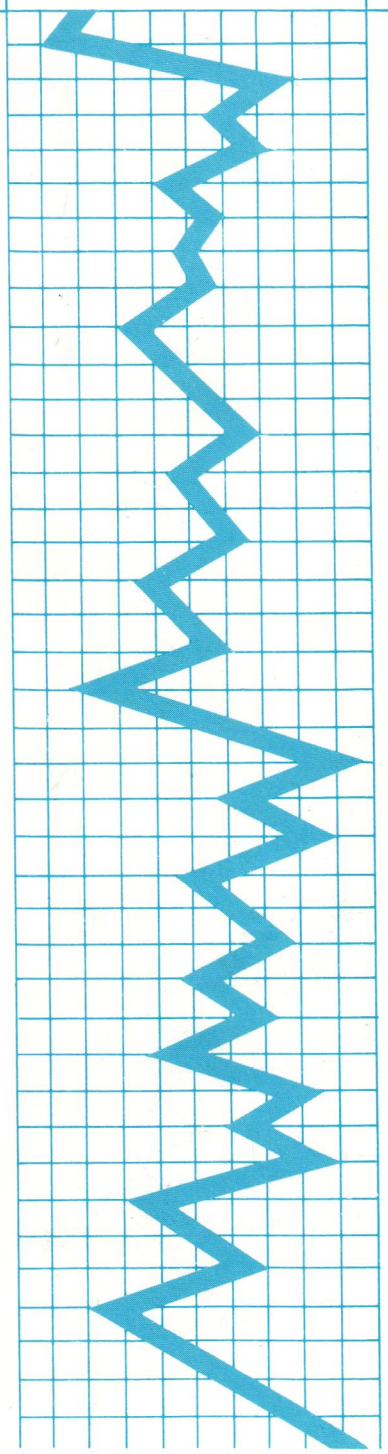
WISCONSIN ARCHITECT — Attn: Lynn W. Ruenger

615 E. WASHINGTON AVENUE MADISON, WI 53703 PHONE (608) 257-8477



Energy Management Ideas from Detroit Edison



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A heat pump lowers costs because it moves the natural heat, that's always present in the outside air, inside to heat any kind of building. The heating system only has to go to work when the outside temperature is below freezing.

A Detroit Edison Specialist can give you straight answers on heat pump savings and recommend the kind of heat pump that will do the best job for any business. He can also recommend economical and efficient methods to improve interior and security lighting, assist you in selecting waste heat recovery equipment and advise you on maintenance schedules to keep all machinery operating more efficiently.

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Detroit Edison

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