We thought it was about time we took a good close look at our competition. Somebody told us that goats can digest anything. Tin cans and bottles even. That worried us a little at first. We've been claiming that there's nothing like a Gas incinerator for disposing of all garbage and trash in the twinkling of an eye.

Just about the only things a Gas incinerator can't handle are bottles and tin cans.

Well, it turns out goats don't eat tin cans. Or bottles, either. So if you've been thinking about buying a herd of goats to end your garbage and waste disposal problems, forget it.

A Gas incinerator is still the world's best (and most economical) disposer.

Goats are only second.

LIVE MODERN... FOR LESS... WITH GAS

MICHIGAN CONSOLIDATED GAS COMPANY
Volume 41 — No. 9

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Cover Sketch by Dennis Holloway, U. of M.

Michigan Society of Architects September 1966
STEEL SOLVES THE MUNICIPAL DILEMMA: More Cars, Less Space, Higher Cost

Burgeoning traffic, increased need for parking facilities, municipal restrictions and inadequate budgets make downtown parking a pressing problem.

Steel offers the solution. Significant savings in material, time and labor are realized with steel in constructing parking ramps.

Further extras gained with steel construction are beauty of design, speed of erection, faster return on investment and predictability of results.

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For information on the latest concepts in design and engineering with steel, contact:

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For more information on the best coarse or fine lightweight aggregate—USS GARYLITE Expanded Slag—call or write United States Steel, Raw Materials Sales at any of the following offices:
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If it works here, it’ll work on the moon.

You're looking into the space environmental test chamber at Bendix Systems Division, Ann Arbor. To see how equipment will react in space, scientists try it out in here. Take the "moon buggy" above. As finally designed, it will carry astronauts on short trips over the lunar surface. The test chamber tells how parts will hold up—drive motors and bearings are just two examples.

To achieve the vacuums found in outer space, the atmosphere is evacuated from the chamber. A cascaded system of electrically driven pumps does the job in 4 to 12 hours. The bottomless cold of outer space (around -300°F) is duplicated by pumping liquid nitrogen through heat absorbing panels on the chamber's inner walls.

Huge 400-amp carbon arc lamps are stand-ins for direct solar radiation. They are beamed into the chamber through portholes. Quartz infra-red lamps are mounted in the chamber. They substitute for that part of the sun's energy which bounces off the earth and back into space.

And there, briefly, you have it. Welcome to the "moon" in Ann Arbor! A "moon" created largely by electric power. An example of how Detroit Edison helps Michigan's aerospace researchers move ahead.
Tour to Begin
Fall Chapter Meetings
The Detroit Chapter will begin the fall season with a meeting at the American Road facilities of the Ford Motor Company, on Wednesday, September 14, 1966.

The program for the evening will include a tour of the new Ford Motor Company Credit Building, followed by cocktails and dinner in the Executive Dining Room and a talk by Walter B. Ford of Ford & Earl Design Associates. The topic of Mr. Ford's presentation will be "The Challenge of the Business Environment of the Future."

Chairman and Chief Executive Officer of Ford & Earl Design Associates, Walter Ford was one of the original founders of W. B. Ford Design Associates, established in 1948. This firm merged with Harley Earl Associates in 1964 to become Ford & Earl Design Associates, and is recognized nationally as one of the most prominent in the industrial design profession.

Ford received his Bachelor of Arts degree from Yale University, 1943, where he majored in Architecture. After World War II he was associated with the Product Design Studio of General Motors Corporation for two years and was engaged in a wide variety of design projects, including consumer products, exhibits and interiors. From 1948 to 1964 he served as President of W. B. Ford Design Associates.

A member of the Industrial Designers Society of America, Walter Ford is President of the Board of Trustees of the Detroit Society of Arts and Crafts, a member of the Yale University Council, and Chairman of the Committee for the Graduate School of Art and Architecture.

Reservations for the evening may be made by calling the Detroit Chapter office, 965-4100, or mailing your check to Ann Stacy, Detroit Chapter, AIA, 28 West Adams, Detroit, Michigan 48226. Reservations are limited.

O'Dell, Hewlett & Luckenbach Selected For Junior High

O'Dell, Hewlett and Luckenbach, Inc., architects and engineers, of Birmingham, Michigan, have been selected by the Birmingham Board of Education to design Birmingham's fifth junior high school, to be located at Inkster and Maple Roads. The new junior high school which will have a capacity of 700 students is scheduled to open in September 1968. The estimated cost is $2,616,000.

O'Dell, Hewlett and Luckenbach is currently serving 33 school districts in southeastern Michigan. Recent junior high schools designed by the firm are the John F. Kennedy Junior High School in Pontiac, the West Bloomfield Junior High School, and the Northville and West Detroit Junior High Schools. Senior high schools include the new Rochester Senior High School and additions to the present senior high school, Mt. Clemens Senior High School addition, and the Greatwood District High School in Dearborn Heights.

University projects include the new Wayne State University Law School and Law Library; at Western Michigan University a $5 million auditorium seating 3,500 persons and classrooms, and at Oakland University the Meadowbrook Pavilion and the new Matilda Wilson Hall.

Library Building Institute Scheduled

Clarence Walters, Building Consultant for the Michigan State Library announces the program for the forthcoming Library Building Institute to be held at the Union on the Campus of Michigan State University, East Lansing. The program is scheduled for Thursday, September 15 and Friday, September 16, 1966.

The program outline as follows includes Elmer Manson, AIA of the Mid-Michigan Chapter and William Lyman, AIA, of the Detroit Chapter as speakers.

Thursday, September 15
9:00-10:30 a.m.—The Library and the Community
Panel: R. Russell Munn, Librarian, Akron, Ohio Public Library; Muriel Fuller, Chairman Department of Library Science, University Extension Division, University of Wisconsin 10:45-12 noon—The Planning Team for a Public Library Building Consultant and former Librarian of the Lansing Public Library
1:30-3:30 p.m.—The Building Program
Speaker—Donald Bean, Library Management and Building Consultants, Inc.
4:00-5:15 p.m.—Preliminary plans, Working Drawings and Specifications
speaker—William Lyman, AIA

Friday, September 16
9:00-10:30 a.m.—Site Selection
Speaker—Joseph L. Wheeler, Library Consultant and former Librarian of the Enoch Pratt Library, Baltimore, Maryland
10:45-12 noon—Remodeling and Expansion of Existing Buildings
Speaker—Elmer Manson, AIA, Manson Jackson and Kane, Inc., Architects
1:30-3:00 p.m. —Furnishings and Equipment
Panel—Frazer G. Poole, Director of the Library, University of Illinois; Robert Adams, Vice President, Ford and Earl Design Associates; Stephen D. Pryce, Grand Rapids Furniture Consultant
3:15-4:45 p.m.—Public Library Building Financing
Panel—E. Boomie Mikrut, Director Michigan Municipal Finance Commission; Donald Kohlstet, Director, Grand Rapids Public Library; Clarence R. Walters, Consultant, Michigan State Library
4:45-5:30—Wrap-up Session

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Synopsis of Presentation
By Dr. C. A. Doxiadis

In the first phase, completed recently, the past evolution and existing conditions in the Urban Detroit Area were analyzed. A very short outline of this phase is given and an attempt is made to draw conclusions from the existing conditions in the area and outline its weaknesses. This bridges the gap between the present and the future.

In the second phase the alternatives presented for the future development of the Urban Detroit Area have been examined and are the main topics of the presentation.

First an attempt will be made to predict the future of the study area if the present trends continue, i.e. if the main transportation network develops on the basis of present principles, and if the central business districts, industry, the harbors, airports, etc. continue to develop in their present locations. An effort will be made to predict the problems the area will face. It will be shown that, if development is left to take its present course, this will result in undesirable solutions.

This leads to the need for reviewing the problems of the developing urban settlements and examining new methods of studying them in depth.

On the basis of such considerations a methodology will be presented to examine many alternatives for the future. Following a system of successive approximations based on broad criteria, a process leading from many thousands of alternatives to a selected few will be presented.

Finally, on the basis of specific criteria, the advantages and disadvantages of the selected alternatives will be outlined, and the resulting most satisfactory solution will be examined.

Reservations for the Doxiadis presentation may be made by calling Ann Stacy, at the Detroit Chapter headquarters, 965-4100. Tables of eight places for dinner and reserved seats for the presentation are $100.00 per table, a limited number are available. Checks are to be made payable to the Detroit Chapter, AIA, and mailed to 28 West Adams, Detroit.

AIA Scholarships Awarded

Two students at the University of Detroit school of architecture are recipients of scholarships awarded them for the 1966-67 academic year by The American Institute of Architects.

Thomas M. Anglewicz of 1042 Bennaville, Birmingham, received a $500 Langley Scholarship which comes from the Edward Langley Fund established by Mr. Langley and administered by the American Institute of Architects.

William H. Dixon Carey of 141 East Grand Boulevard, Detroit, received a $500 Henry Adams Scholarship established by Mr. Adams and awarded by the American Institute of Architects.

The two students were selected by AIA’s Committee on Scholarships, headed by S. E. Chambers of Syracuse, N. Y. The committee awarded a total of $47,650 in scholarships for 1966-67 for advancement of architectural education.
Covering some 2\(\frac{1}{2}\) acres, the new Dane County Memorial Coliseum at Madison, Wisconsin is a beautiful umbrella of Fenestra cellular steel folded plate. Equipped to provide “home ice” for University of Wisconsin hockey and already booked for the 1968 American Bowling Congress, the new arena will provide 7600 upholstered, theater-type seats for all kinds of shows, exhibitions and indoor sporting events. The 18" wide flange beams spanning from the compression ring at the center to the exterior columns, serve as valley support for the acoustical ‘D’ Panel folded plate sectors. The ridge fold line member is a 120° structural angle. For the complete engineering information on cellular steel folded plate, call your Fenestra representative or write Fenestra Incorporated, Lima, Ohio 45802.

FENESTRA

Law, Law, Potter & Nystrom, Architects
Education is a continuing process, a process which for architects occurs from cradle to grave. The most important education received by an architect, however, is that which he acquires in his formative years in the program which grants him a professional degree. These programs directly affect the profession and, in turn, the aspirations of the profession affect the educational programs which are offered. It is crucial to the future of the profession that a dialogue be maintained between the profession and its educational institutions.

To help encourage this dialogue the guest editorial this month was written by Walter Sanders, FAIA, President, of the Association of Collegiate Schools of Architecture, who outlines the most current thinking of both the profession and the ACSA regarding professional programs in education. Following this editorial is a review of the objectives and programs offered by schools in Michigan which grant professional degrees in architecture.

EDUCATION FOR ARCHITECTURE
THE ROLE OF ACSA

Significant for architectural education was the creation in 1912 of the Association of Collegiate Schools of Architecture (ACSA), an organization which could speak for architectural schools and provide a forum for the discussion of educational problems. The stated purpose of the Association was "to promote the efficiency of architectural education in America", which was understood to include everything relative to the increasingly effective preparation of potential architects and citizens. From seven schools in 1912 ACSA has grown to eighty-three in 1966, including five in Canada.

The University of Michigan was one of the founding members of the Association, and along with the University of Detroit, is a Member School of ACSA. Cranbrook Academy of Art is an Associate Member School, and Lawrence Institute of Technology has applied and will become eligible for Associate Membership next year.

With the increase in number of schools over the years has come an increasing responsibility on the part of ACSA to provide leadership in fostering changes in architectural education commensurate with the social, economic, and technological advances influencing the profession. Progress was slow initially because of the difficulties inherent in opening up effective channels of communication with related organizations such as AIA, NAAB, and NCARB, who also play a role in architectural education.

During the past several years, however, progress has been marked and presently, there is much cross-over membership on the committees of the four organizations and reports are exchanged annually. It has been proposed by Charles Nes, AIA President, that the AIA committees on education, scholarship, internship, continuing education, licensing, research, and technical training become joint committees with ACSA. Under this plan, ACSA would nominate educators for the committees in question and AIA would nominate the practitioners. In so doing, there would be no duplication of activities and both organizations, working toward common goals, would be kept fully informed on what is being thought, planned, and done. There would be no unilateral decisions that have so often in the past plagued effective working relationships between the two.

In addition to developing close working relationship with the AIA and closing the gap that has existed between the practitioner and the teacher, ACSA serves its constituent schools in areas in which individually they would be less effective. ACSA and AIA are working closely together in Research and Continuing Education; two heretofore neglected but highly important professional responsibilities. In research, the ACSA is focusing its efforts on stimulating schools to develop research potentials in their respective colleges and universities, and then helping them to formulate appropriate programs of research and to obtain needed financial support. The AIA is assisting in these efforts and is also trying to dis-
cover emerging needs of the profession, particularly in expanding areas of practice, and to alert researchers to these needs.

In the area of Continuing Education, the ACSA has submitted a proposal to the National Endowment for the Arts for support of a national conference on continuing education for architects, envisioned as a starter toward future regularly scheduled conferences between schools and AIA Chapters. This conference would be jointly sponsored by ACSA and AIA, and would have as its prime objective the development of specific programs in continuing education for the practitioner.

Two highly valuable on-going projects jointly undertaken by ACSA and AIA are the annual Teachers' Seminars and the Foreign Student Exchange Program. Initiated in 1957 with financial support from the AIA and others, the Seminars have grown into firmly established study institutes for teachers. Occurring early in the summer and lasting either a week or ten days, the last six Seminars have been held at Cranbrook. Approximately sixty teachers gather to hear various experts and to discuss problems related to architectural education.

The Foreign Student Exchange Program, in its fourth year of operation, entails the exchange of equal numbers of fourth-year U.S. and European students under ACSA auspices to work ten weeks in sponsoring offices. U.S. sponsors provide a tax-deductible grant of $1,500 to ACSA, which covers not only the term of employment but round-trip air fare plus four-weeks unlimited bus travel in the U.S. European firms make equivalent grants for the U.S. students abroad.

In terms of professional educational programs, ACSA has advocated revisions to require that students obtaining the professional degree have, as a minimum, the equivalent of a 2-year course of study in the basic liberal arts and sciences. This expansion of the present 5-year program to 6 or more years is aimed at providing future architects a cultural understanding that matches their technical skills so they might assume their full responsibilities to the community and fulfill their roles as designers of the man-made environment. A recent poll of the schools indicates that 30 are now offering or have proposed programs of 6 or more years leading to the first professional degree in architecture. In its report of 1963, the AIA Special Committee on Education advocated a similar broadening of the educational program. Together, the two organizations have served as the moving force behind this development.

The profession of architecture can never be better than the young men who enter it and who are in turn moulded by their preceptors. To be a good preceptor and give proper direction, one has to know what directions are possible and which hold the greatest promise. In providing a forum and organization for teachers of architecture to discuss, question, and learn, the ACSA assists in this quest for the highest possible standards of education for architecture.

Walter Sanders FAIA

Study of Pontiac Michigan, students:
William Yukas, Anne Tamm, Daniel Mens, Stephen Ryan

September, 1966 | 9
UNIVERSITY OF DETROIT
SCHOOL OF ARCHITECTURE
Bruno Leon, Chairman

A Self contained Community for 5,000 People, students: Algimantas V. Bublys and Thomas P. Moran U of D

The School of Architecture at the University of Detroit has predicated its educational objectives and philosophy upon the concept that architecture is more than a building or a physical plan. We embrace the idea that all concerns which bear upon the art of living are architectural concerns. Further, in this revolution called "urbanization", we are resolutely dedicated to the idea that an architect must act with a clear value and design. We believe there are universal principles in architecture but that these are neither the dogmatic abstract pronouncements of aestheticians up to the nineteenth century nor the obscure verbiage of contemporary stylist so prevalent today. We believe these principles derive from the nature of man, his psychology, his intellect and his emotions. We further believe that architecture, or any other art form, is not a thing upon itself, but that it has social responsibilities.

Mechanistic-technological orientations are rejected for their own sake but spurious philosophies which would deny these social forces are equally rejected. We consider these forces the most significant tools in our vocabulary and a fundamental understanding of them is stimulated in order to direct and implement them in keeping with a philosophic base which recognizes human values as the motivation.

We do not ignore the various technical disciplines necessary for effective responsibility. However, our emphasis is upon principles rather than stereotyped application. Quite simply, the program is therefore based upon the idea that there is an interrelationship in all creative areas, the fine arts as well as the physical and life sciences, and it avoids consideration of building in isolation from the social organism.

Program Description

The new six-year curriculum in architecture is based primarily upon areas considered essential to an understanding of the condition of man and to the manner that architecture expresses that condition. These areas are: Design, Structures and Technics, Humanities and Philosophy.

The area of Design is considered the hub of the areas of study. It is in this area that the synthesis is manifested, reflecting the patterns of analysis and value choices which the student is continually called upon to make. The individual is stimulated in his curiosity and sensitive response by being required to have a complete awareness of all elements as a part of activity and scale, of building materials and technology. Experiments in environmental space relationships and involvement in the allied arts - painting, sculpture, landscape, urban planning, etc. - become an integrated and organic unity. The end product is judged not solely as a mechanical object but primarily as a poetic, sociological and psychological event. The development of the student's personality and individual philosophy of design is one of the School's principal aims. To this end concentration on singular philosophies is avoided. In this manner it is felt the student is better able to establish criteria of judgment which will allow for valid individual decisions.

The area of Structures and Technics, which is one of the key realms of knowledge feeding into the hub of design, is approached in the curriculum in a broad manner. In addition to the various tools such as mathematics and physics, the basic structural courses are taught from the viewpoint of broad principle rather than concentration upon specific details of application. In addition, several courses, broadly philosophic in nature, are considered, which give the student knowledge in areas such as industrialization and technology. It is believed these approaches will allow the student to stand off at a distance and get a broader view of the entire area affecting design as well as permit him to involve himself with specific necessities.

The Humanities sequence is emphasized as a necessary prerequisite for an educated person. The architect, faced continually with broad social problems, must have an awareness of the manifest activities of men in order to fulfill his responsibilities. In particular, the impact of the architect's acts on the social organism must be clearly felt in order to avoid the degenerating effect of acts committed in isolation, and this is particularly true of the urban environment. In this light, knowledge of this area is stimulated in terms of an understanding of human values.

The area of Philosophy is the network maintained in the department that holds firmly together all the areas which finally are reflected in design. It is here that a student develops a proper regard for the significance of man-the source of meaning for an architect's activities. Without regard of proportion and scale in the values made knowledgeable in this area, all acts of men would lose their meaning, being either divorced from their proper orientation or grotesquely disoriented.

Cooperative Plan of Architectural Education

The cooperative plan is the exclusive means by which a degree may be obtained in the program of the School of attendance in school with periods of attendance in school with periods on training assignments in their pro-
Students in the School of Architecture attend school during the first three years of the curriculum on a regular basis for the first two terms of the three-term calendar. During the last three years the cooperative plan becomes effective utilizing all three terms of the calendar.

This cooperative training is a regular and essential element of the School's educational process, and included in the requirements for a degree is the completion of this training at a satisfactory standard of performance. This plan requires that the student's employment be related to some phase of the field of architecture. It requires, further, that his professional training shall normally increase in difficulty and responsibility as he progresses through the curriculum.

In addition to providing a vehicle by which the objectives of the School of Architecture are carried to fruition, the cooperative plan of education also offers the following advantages.

It assists in the assimilation of direct and personal experience to test their aptitudes for the architectural profession.

It imparts first hand knowledge and experience in the execution of designs, projects and developments.

It enables students to adjust themselves to architectural employment by a gradual transition from academic pursuits.

It increases understanding of the human factors involved in the profession of architecture.

Special Aspects

There exist several unique features of the above program which require explanation in order to understand our procedures. Included herein are the honors program, the structural, acoustical and lighting laboratory, comprehensive examinations, the study-travel program and the nature of program analysis.

In the honors program, highly motivated students may voluntarily be involved in programs related to the University's Institute of Urban and Regional Analysis where cooperative work in depth is conducted with students and faculty from other disciplines.

Our structural, acoustical and lighting laboratory is a research and study facility now well established and continually growing wherein both faculty and students investigate various problems. Several formalized classes are involved in using the laboratories and it is intended that design studio problems will be validated through their use.

Our comprehensive examinations, established this year, will occur at the end of the third year and just prior to graduation. Our intent is to check upon the student's ability to relate all aspects of his education and to direct the students into various areas according to their abilities.

Our study-travel program was established three years ago and most fifth-year students take advantage of this program for study and travel in Europe for a period of eight weeks under the guidance of a faculty member. Expansion of this program to other continents is now under study.

Our system of programming in the School is based upon the following criteria:

A. The problems must be realistic, existing in our region, and with an existing site and client contact possibilities.

B. Establishment of program requirements are the responsibility of the student since we feel that many creative decisions are made at this stage. Further, it precludes pre-conceived ideas from being established by the faculty in the statement of the problem.

C. All forces must be considered in this programming which means involvement with the areas of sociology, psychology, law, political science and the like. Consultation with faculty members in other disciplines is naturally called for by this process.

In keeping with this concept the School is now searching for new faculty to join the design critic team. These faculty members will be an urban economist, a sociologist, an environmental psychologist and a political scientist. These men will serve to confirm the design concepts from all relevant points of view.

As a young School we have not as yet implemented our entire program, completed our faculty structure, nor frozen our attitudes. Any creative organization must continually evolve and remain flexible. What is critical is to establish a system upon principles which are basically valid and allow growth and change smoothly and meaningfully in concert with the problems faced by our society and indeed, by the world society. Again, as a young School we have not as yet conducted research of any magnitude because we have been involved with preparation for such work. However, in the sense that our studies have been involved realistically with urbanization we have been involved in research of the most meaningful kind.

In terms of our fellowships and scholarships we are not in an enviable position as yet. We have very limited assets therein but are working diligently to elevate our position in this respect. The School itself has approximately $2,500 each year for direct assistance to needy students while from the University various grants-in-aid and scholarships are available—which vary in number each year. Improvement in this area can be expected from the University through its Development Fund in the future. The major cause of weakness in this area can be attributed to the fact that we are a young school with alumni who have not yet reached a level of professional success.

In summary, the School has instituted a program encompassing the main concerns of architecture in this time that reflects well upon the conclusions and admonitions so prevalent today in the world estate on architectural education. We intend to build a truly significant school and nothing else is satisfactory. The world of architecture and the world of a humane environment are synonymous for us and to this end we have dedicated ourselves.
practice. Architecture is the physical \[\ldots\] callv prepared for its proper at Lawrence Institute of Technology \[\ldots\] the curriculum \[\ldots\] ulude. alotig with studies in the tech- \[\ldots\] nological needs. Therefore, the curriculum \[\ldots\] 

Program Description

The education of an architect must include, along with studies in the technical and liberal disciplines, the opportunity for artistic experience, from which the student can gain conceptual sensitivity and a consciousness of Architecture as an aesthetic expression of man's physical environment. The design courses, which constitute the nucleus of the curriculum, develop concepts and disciplines capable of producing the most satisfying environment for the various levels and areas of our society. These courses are not predicated on a style or aesthetic dogma, but rather stress the approach and evaluatory process of creative thinking - analysis, synthesis, awareness and response. Courses in the humanities and sciences are studied in parallel to the design courses, rather than as a prerequisite to them, and develop in sequence to strengthen the cultural foundation essential to meaningful architectural design solutions.

The basic design courses develop the student's awareness of the aesthetic significance of things seen and observed. His lead, through various kinds of directed stimuli, to produce personal statements and imaginative graphics. English, history and mathematics are taught during these early years.

The goal of the middle design courses is to further the student's appreciation for and knowledge of special concepts as defined by the aesthetic, organic, and dynamic qualities of mass and structure. Simple activity systems in space are studied and the manipulation of light and human scale is begun. Other courses taught at this time are rendering, freehand drawing, history, economics, mathematics, engineering physics, mechanics, statics and fine arts.

In the succeeding design courses numbers of variables are introduced into the problems to further an understanding of form and space, of the human problem-solving procedure. Paralleling these design courses are technical courses in building construction, mechanics and technology of material: courses in construction costs and estimating, structural courses in wood, steel and concrete, mechanical courses in heating and lighting, courses in city planning and liberal courses in sociology, psychology, political science, art, literature and history.

All students are required to participate in a program of scheduled field trips to study prominent works of art and architecture. Such trips occur as regular class activities. Major field trips, scheduled for longer periods, are offered at specific times and all students are encouraged to become involved in these group experiences.

The School of Architecture holds in high regard the professional aspects of architecture. To foster professional responsibility and integrity, the school promotes and vigorously supports the student chapter of the American Institute of Architects. All students are encouraged to participate in its professional and social activities. Through the organization student members are submit resume to: Fred Sanders, 100 initiates in the professional aspects of architecture and come in contact with personalities who are exemplary practitioners in Architecture.

Members of the teaching staff are selected for their individual and diverse philosophies, their professional ability to communicate and simulate. The staff of architects, urban planners, engineers, historians and artists, experienced in their particular disciplines, is augmented, through a special program of forums and lectures by national and international leaders in art, architecture, technology and planning.

Scholarships

Lawrence Institute of Technology offers 25 full-tuition academic scholarships each year to beginning freshmen who are to become full time students in any of the baccalaureate programs. Financial need is not a requirement.

The academic performance of the scholarship recipient is checked each term, and the scholarship can be renewed for the succeeding year at the discretion of the scholarship committee.

Other scholarships and special grants are offered by industries, organizations and foundations. Some of these require special ability, and most have need as a requirement. Graduates and transfer students from Community College also are eligible to receive scholarships on the same basis as high school graduates. Information concerning these is available at the Student Services Office.

Tuition Grants up to $500.00 are available annually from the State of Michigan to Michigan residents attending private colleges. Full-time freshmen are eligible for the Grant this year in accordance with Senate Bill 780.

Awards

The Louis Klei Memorial Gold Watch Achievement Award
The Adams-Glen Housing Competition Award
The Reynolds Aluminum Competition Award, The L.I.T. School of Architecture Award
The Illuminating Society Competition Award.

Lawrence Institute of Technology has three schools offering study for the Bachelor of Science Degree. These are the School of Architecture, the School of Engineering and the School of Industrial Management. The School of Arts and Sciences will open in September of 1967 and will offer degrees in Mathematics, Physics, and Chemistry. In the School of Architecture, all courses leading to the Bachelor of Science in Architecture are given in that department except English, history, social sciences, electives, mathematics, physics and mechanics. The above courses are given in their respective departments. The Director, the faculty and the advisors formulate the program in Architecture in coordination with the Administration, other departments and within the general framework of the college. Lawrence Institute of Technology offers curricula leading to the following degrees which are listed here to show their relationship to the program in Architecture.

BACHELOR OF SCIENCE DEGREES IN:
Architecture
Electrical Engineering
Mechanical Engineering
Industrial Management
Mathematics (September, 1967)
Physics (September, 1967)
Chemistry (September, 1967)
ASSOCIATE IN ENGINEERING DEGREES IN:
Building Construction Technology
Electrical and Electronic Technology
Industrial Supervision Technology
Mechanical Technology

A College
Administration Building
L.I.T.

A Community on a Bridge, student: Charles Collins
L.I.T.
CRANBROOK ACADEMY OF ART
DEPARTMENT OF ARCHITECTURE
Glen Paulsen, President and Head

The emphasis in the architectural program at Cranbrook is on individual study and maximum freedom of creative expression—yet always in reference to the professional responsibilities and conditions of the art in today's society.

Instruction in the Department of Architecture is concentrated mainly upon architectural design and aesthetics and, to a lesser degree, upon architectural engineering and technology. The emphasis on aesthetic expression in architecture is for the purpose of developing an understanding of architectural problems as they relate to the social and economic structure of which they are a part. Students study the alternative cultural patterns which make up modern civilizations — many Cranbrook students come from and return to foreign lands — and urban designs, in which buildings are conceived as structures needed in present-day community life. Before students are admitted to the Department of Architecture they must have completed five years of training in another institution in a program of study including engineering, technical competency and architectural economics and have earned the degree of Bachelor of Architecture, or its equivalent.

The specific objectives of the Department of Architecture are:
1. To expand competencies in designing simple and complex structures of housing developments, civic centers, shopping centers, industrial complexes and educational institutions for the communities in which they are located.
2. To broaden and systematize knowledge and understandings of both old and new structural materials, architectural demands and contributions in various settings and patterns of human life from the intimacy of home life to the broad socio-economic affairs of community, region and society.
3. To develop creativity in drafting, rendering and model making and other manipulative techniques appropriate to the field of architecture.
4. To cultivate the ability to evaluate buildings through work upon architectural problems which are concrete.

Curriculum
The degree Master of Architecture will be granted to the candidate only if his work meets the Academy's standards with respect to quality and quantity. In addition the candidate must earn at least 49 semester hours credit. A part of the students' work is devoted to the writing of a thesis based upon research in his field of specialization and including a photographic record of his work. The nature and scope of the thesis is determined by consultations between the student and the department head, and must reveal a high degree of individuality. At the conclusion of his graduate studies the student is required to prepare an exhibition of the work he has done for inspection and approval by the faculty. An elective program makes it possible for the student to take courses in other programs of the Academy, including painting, sculpture, graphics, design, weaving, metalsmithing, and ceramics.

Scholarships
The Academy offers a number of scholarships and loans. The alumni of the Academy supports a loan fund and the student body substantially complements institutional scholarship funds. These two aid programs are limited to enrolled students.

University Information and Reception Center, student: Lorr H. Randolph
The general objectives of the curriculums administered in the Department of Architecture of The University of Michigan are: (1) to prepare students for successful practice in architecture and architectural structures and for further graduate study in these fields and in city planning; and (2) to provide an educational environment within which students may assume increasing responsibility as members of contemporary society.

The complete programs are designed to provide the substantial educational background in the humanities and in the social and engineering sciences which is essential for advanced professional work in architecture and its structural and city planning options.

Undergraduate Program in Architecture

1. Basic Program
2. Structural Option
3. City Planning Option

Beginning general courses include mathematics, physics, English, and economics. Beginning professional courses emphasize the development of visual perception and a knowledge of materials, structure, scale, land forms, and their utilization in the organization of space. The essential relationships between society and technology are constantly observed and clarified. Later, the development of the student's ability to evaluate and integrate the components of architecture and the larger urban environment is emphasized. Problems increase in social and technical complexity focusing in the last year on comprehensive design sequences appropriate to the program option selected.

The degree programs in architecture and the optional programs total 160 credit hours and require five years for completion, in accordance with the standards of the National Architectural Accrediting Board and the policy of the Association of Collegiate Schools of Architecture. The degree granted, regardless of choice of option, is Bachelor of Architecture.

Graduate Program

Graduate programs are offered leading to the master's degree in architecture and planning. In the program in architecture, options are offered in architectural design, structural design, and architectural research. The degree granted in architecture, regardless of option, is Master of Architecture; and in planning, Master of City Planning. Candidates for these degrees who enter the program from other undergraduate schools must qualify as having had, or completing as part of their graduate program, the equivalent of the undergraduate programs. In city and regional planning, the graduate program may be approached through undergraduate work in either architecture or landscape architecture.

In addition to meeting the Graduate School minimum requirements (24 hours of graduate credit), the student must demonstrate to the faculty of the Department of Architecture an adequate degree of maturity in his field of specialization.

Scholarships, Fellowships, and Awards

University of Michigan Regents-Alumni Scholarships

These scholarships are open to graduating seniors in the accredited high schools of Michigan who are entering the University as freshmen.

University of Michigan-Tuition Scholarships

Grants toward tuition are awarded each term to students enrolled in the College for at least two terms. The awards are based on scholarship and financial need. The amount and number of awards is variable.

Tagge Scholarships

By action of the Regents of the University, a scholarship fund of $25,000 from the Arthur C. Tagge Fund was established for the College of Architecture and Design. Approximately $1,000 is available annually for tuition scholarships.

Teaching Fellowships

Teaching fellowships are awarded annually to master's degree candidates in the fields of architecture and planning. Awards vary and carry the stipulation that the student teach approximately six contact hours per week.

Horace H. Rackham
School of Graduate Studies

University fellowships are awarded each year to properly qualified students, chosen primarily on the basis of ability.

George C. Booth Traveling Fellowship in Architecture

The George G. Booth Traveling Fellowship is offered annually with a stipend of $1,500. To be eligible for either be a graduate of the College of Architecture and Design of The University and have practically completed the last two years of the architecture degree course.
A graduate scholarship has been established by Albert Kahn Associates and Engineers, Inc., Detroit, Michigan. This scholarship is in the amount of $1,000. The recipient each year is to be a graduate in architecture of the College of Architecture and Design at The University of Michigan or a graduate of another accredited school. The purpose of the scholarship is to assist an outstanding student to carry on his studies when it might otherwise be impossible.

**Architecture Alumni Scholarship**

Supported by annual gifts from alumni, the Architecture Alumni Scholarship of $2,500 will be awarded annually to a student of outstanding ability and promise for graduate work in architecture. To be eligible for consideration, applicants must hold the degree of Bachelor of Architecture, or equivalent, from an accredited school in the United States.

**Daverman Merit Award in Architecture**

The Daverman Merit Award in Architecture has been established by J. and G. Daverman Company, Grand Rapids architectural, engineering and planning firm. The annual scholarship of $1,000, beginning in the 1961-62 academic year and extend for five years, will be awarded to an outstanding senior student for graduate study in design, structures, mechanical equipment, planning, or research.

**Olive Cox Sleeper Award**

The Olive Cox Sleeper Memorial Fund provides financial assistance for needy undergraduate or graduate students in the Department of Architecture. Applicants for grants from this fund should consult the chairman of the department.

**Iktinos Alumni Scholarship Fund**

The Iktinos Chapter of Alpha Rho Chi, national professional fraternity, awards a tuition grant, either in part or in full depending upon the amount available, to that individual enrolled in architecture who has achieved the highest scholastic standing during the freshman year.

**Research**

The Department has an organized program of sponsored research, conducted by the Architectural Research Laboratory, as well as research projects conducted by individuals.

The Architectural Research Laboratory has completed the first phase of a long-range multidisciplinary project on school environments, which has as its objective the assessment of all physical, human, and cultural influences on the teaching-language process. A final report prepared for the sponsor, Educational Facilities Laboratories, is a series of four books, in unified format.

S.E.R.-1, Environmental Abstracts, the first book published contains 650 abstracts of reference documents on environment and human behavior. S.E.R.-2, Environmental Evaluations, is a collection of six essays by representatives from several teaching departments and research units: architecture, mechanical engineering, acoustics, psychology, and education. S.E.R.-3, Environmental Analysis, sets up a frame of reference for the use of environmental information in making case studies, Windowless Classrooms, an environmental case study, deals with an experiment conducted at Wayne, Michigan.

Since July 1962 the Agency for International Development, U.S. Department of State, has been sponsoring a project to demonstrate the feasibility of using foam plastics for low-cost housing in the newly developing countries of the world. This study has attracted wide interest within the chemical industry, and some fifteen companies are working with the staff of the Architectural Research Laboratory to develop prototype structures believed most suitable for housing use. The project report, “Structural Potential of Foam Plastics for Housing in Underdeveloped Countries”, has recently been published.

In individual projects, specific materials and processes such as precast concrete, new techniques in brick masonry, and elastomeric structural zipper gaskets are being investigated to determine their usefulness. The architectural problems related to certain building types are being studied in depth. These include housing for the aged, theaters, and churches.

In urban design, work is being done on community development and the planning of new towns, on the planning of multiple-levels for vehicles and pedestrians on metropolitan land utilization, and on land use capacity. Other work in planning includes studies of regional development and economic organization of the southwest sector of the Detroit metropolitan region.

Mathematical theories that might apply to architectural analysis and the use of computers as an aid to design are being investigated. Study of the training given at foreign schools of architecture is a current project. Also, the objectives of architectural education as they related to the changing nature of professional practice in architecture are being studied. Other investigations deal with the early clientele of Frank Lloyd Wright, visual perception, and the design of fallout shelters.

**Curriculum**

The curriculum of the Department is under constant evaluation. The necessity to expand the Departments program to a six year program was recognized several years ago. Since that time a study has been conducted relating to the possibilities existant in an expanded curriculum. As a result of this study a major restructuring of the curriculum has been made possible. Details of the new curriculum are currently under study by the faculty and it is expected that the six year program will soon be ready for implementation.

A new building to house the College of Architecture and Design is now in the programming stage. The space provided by this new facility will provide the six year program with the specialized facilities needed for laboratory and classroom space, making the program in architecture at the University of Michigan one of the most up to date in the nation.
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AVAILABILITY • Duo-Wire is sold and distributed exclusively through your local masonry products manufacturers.

Duo-Wire's "TYBRICK" shown here

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Knowing the value of horizontal joint reinforcing and recognizing the need for versatility as well as simplicity of design in this product... Duo-Wire today is the core of better mortar joint reinforcement where strength, permanence and appearance are an essential in quality masonry construction.

Duo-Wire offers architects and engineers a durable, single self-contained cross-wire welded unit for reinforcing all types of masonry construction. Fabricated in three gauges, five widths and two finishes of the highest quality domestic steel with tensile strengths that exceed all existing requirements for reinforcing masonry walls. To the contractor, Duo-Wire means rapid installation because it is lightweight, rigid, yet easy to form on the job site. It is packaged for convenient one man handling and sold and distributed through our local masonry products manufacturer. The building owner gains, because the use of Duo-Wire minimizes cracking, therefore maintaining the value and beauty of his building... Always specify Duo-Wire for better masonry wall reinforcement. There is a gauge, width and finish for every form of masonry construction. Weather-free warehoused... kept clean and ready for delivery.

masonry walls for permanence, economy and beauty
QUALITY CONTROL • A prerequisite for reducing to a minimum shrinkage of masonry is contingent upon: • Properly CURED MASONRY units, exceeding required strengths secured through a normal mix, using proper selection of aggregates and ample cement. • Quality MORTAR, used extra moist for its additional bonding quality and properly tooled, produces a lasting watertight mortar joint. • Modular CONTROL JOINTS at least every twenty feet. • Professional WORKMANSHIP and • Versatile DUO-WIRE mortar joint reinforcement installed as recommended.

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DUO-WIRE EXCEEDS SPECIFICATIONS • A.S.T.M. specification A82-61T (high tensile), A.S.T.M. specification A116-57 (galvanized), National bureau of Standards (report #3079), U.S. Corps of Engineers, Federal Housing Administration, Federal Specifications Code QQ-W-461e, and the Concrete Products Association of Michigan. Technical Series index number 4.08.55. Specification numbers 403.1—403.2—403.3.

GAUGES, WIDTHS AND FINISHES • Duo-Wire is fabricated in THREE gauges, FIVE model widths and TWO finishes of the highest quality domestic steel. Other gauges and widths furnished on request. Duo-Wire TYBRICK data is not listed.

### Dimensions

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<th>NOMINAL WALL THICKNESS</th>
<th>DUO-WIRE OVERALL WIDTH</th>
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<th>MEDIUM # GAUGE (.162)</th>
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LITHO IN U.S.A.
Remarks at the 23rd Mid-Summer Conference MSA

Lt. Governor William B. Milliken addressed the 23rd Mid-Summer Conference of the Michigan Society of Architects held August 4-6 on Mackinac Island. His remarks were both encouraging and challenging, with specific proposals directed to the MSA. Lt. Governor Milliken's proposals definitely warrant our consideration and action, and for that reason the text of his address is presented here.

I am pleased to be here tonight for two reasons: one, because I have a deep personal interest in good architecture; and two, because this forum gives me the opportunity to say some things about cities I have been wanting to say for a long time to people who not only will understand, but have indicated a willingness to act.

A long time ago, the city existed for only one reason—protection. People had to come in from the fields at night to escape from danger. Today we leave the city at night for the same reason.

But the escape is only temporary . . . the escape not only from danger, but from ugliness and disorder.

The next morning we must leave the pleasant suburbs, if we are fortunate enough to live there, and drive the concrete ditches which funnel clogged streams of traffic back into the cities.

If we are sensitive, we are offended every mile of the way by asphalt jungles of shopping centers, block row housing, dilapidated buildings, garish signs, polluted rivers and streams, overhead wires, junkyards—and beyond all this befoulment, horizons obscured by smoke.

The American Institute of Architects asks editorially, "Why should the nation with the most advanced technology, the highest living standard, the best program for mass education, the most successful political system, and the highest degree of ingenuity in solving scientific problems make such a mess of its physical environment?"

But the question goes much deeper even than that.

It cuts through the ugliness with which you have so long been concerned into the frustrations of Negroes huddled together into tenements where the plumbing isn't active, but the rats are. It extends to unemployment, to broken homes, to rising crime rates, car-choked streets in which children must play, inadequate sanitation, housing and schools; and a host of other social problems.

The question extends also to decaying neighborhoods and business districts from which tax revenue is nowhere near enough to cover services so that the city must be subsidized by the suburbs.

These problems are not insoluble, but they are inseparable.

If we are sensitive, and if we have traveled throughout our nation, we know that cities don't have to be like this. They can be well-designed and clean; they can have playgrounds, open spaces, trees and flowers. They can be centers of culture with libraries, good schools, attractive parking lots, architecture that enlargets and enriches man's daily life.

What is really needed, therefore, is a vision of what the American city can be—and a determination to make that vision a reality. Perhaps the answer to the question of the problem of the cities will finally emerge only when every American recognizes that breaking the chain of poverty, ignorance, and despair is in his own immediate, direct interest. For this is one of the moral and practical lessons that all experience teaches: that our own well-being, and the very quality of our own existence and that of our children, is bound up with the lives and well-being of countless other men whose lives will never touch our own.

The ghettos are the disgrace of America; and the tragedy is that they need not exist. The story of the ghetto, to a great extent, is the story of the American Negro. We pay for the ghetto in many ways: in crime rates, in broken homes, in alcoholism, in public support, in wasted human resources; but most of all we pay for it in the denial of the American ideal. For too long the scales of justice have been weighted against the Negro and other disadvantaged groups. Such expenses of spirit and of matter diminish the quality of all our lives.

The time has come for a massive and successful assault on the problems of the inner city, and our commitment must be to justice, to order, and to beauty.

I would hope we could agree on all the things that have been said so far. The question is—how do we solve the problems of the cities. And with 7 out of 10 families now living in these cities, the questions cannot go unanswered!

Part of the answer, obviously, is that we must mobilize the strongest efforts of federal, state and local governments, and of the private sector.

We can look to Washington for money and programs, but, unfortunately, not for inspiration. Although Washington's basic design is beautiful and imaginative, its traffic jams, its slums, its polluted Potomac are as bad as you will find anywhere—despite the fact that this is a city run by Congress.

What help have the cities received, and what help can they expect from Michigan state government?

First and foremost, we have a new State Constitution which includes the strongest civil rights section of any state—and a civil rights commission to make sure that the constitutional promises are fulfilled.

We have a reapportioned state legislature which has shifted the balance of power from rural areas where the people aren't to urban centers where the people are.

We have laws which provide tax breaks for industries which meet standards to reduce air and water pollution and we have a Water Resources Commission which carries on a never-ending war against pollution of our rivers, lakes and streams. We have appropriated $2 million to augment the federal water pollution grant program.

We have a new Crime Commission, appointed just a few weeks ago by Governor Romney, a Commission which will concentrate on state problems while at the same time working in close cooperation with the National Crime Commission. It will study the total impact of crime and delinquency in Michigan, the best methods of crime prevention and law enforcement, possible improvements in the administration of justice to provide prompt but fair handling of cases, the development of more effective police work, improved police-community relations, and the rehabilitation of offenders.

September, 1966 | 21
We are in the process of appointing a Special Commission on Urban Problems. This Commission will analyze the trends, conditions, unmet needs and problems of our rapidly expanding urban areas; strengthen the partnership between state and local government; and recommend courses of action. It is more than likely that out of the work of this Commission will come the establishment of a State Department of Local and Urban Affairs, which would constitute the 20th principal department of state government permitted under our new Constitution. Eight other states already have such departments.

This Special Commission on Urban Problems will be asked to explore the feasibility of a State Housing Authority and a State Transportation Authority, both of which have been proposed by our Administration.

We have shifted some of the burden of welfare costs from the cities to the state, thus freeing millions of dollars in urban areas to be used for other purposes.

Local governments, in trying to solve their own urban problems, have run into a series of problems which have sent them to Lansing and to Washington for help.

Cities get their taxing authority from the Legislature; these powers have been limited and the state government, fighting for tax reform to meet its responsibilities, is limited in the financial assistance it can give to cities. This has sent cities scurrying to Washington, where money is easier to get. The situation, in short, is that the cities have all the problems and the federal government has most of the money.

Cities in trying to solve their own problems, have been hamstrung by their county boards of supervisors, which generally were rural-oriented. Now, with a new law requiring apportionment of such boards on an equitable representation basis, by 1968, the balance of power will swing to the cities.

All this is by way of saying that the problems of cities are tied together so tightly they cannot be separated. Ugliness is only one part of a package that also includes the broader problems of education, poverty, civil rights, etc., you know the list.

I have outlined briefly what actions are being taken by government, but as you well know, government cannot be effective without the support of concerned people.

As architects you have, more than any other group, an appreciation for the things which can make a city attractive. You also have a greater responsibility than any other group because, as you know, we are building a whole new America. You know that in the next 40 years we will have to duplicate every structure in the nation in order to house our expanding population and replace outworn buildings and neighborhoods.

You know the difference between good and bad in design of buildings and cities and, in many instances, you already are using your influence for good.

I am thinking particularly of organizations in which many of our 800 Michigan architects are involved—like the Forum for Detroit Area Metropolitan Goals, the Lake Michigan Regional Planning Commission; the many city planning commissions; and the Fine Arts Commissions in Flint and in Kalamazoo.

You have recognized—and I know this because I have read it in your journals—that three forces are required to eliminate ugliness and create an efficient and beautiful urban environment. These forces are an enlightened and sympathetic government; the leadership and support of the business community; and the design professionals of our community.

As we travel this state—and I travel it a great deal—is easy to identify the cities in which these three forces are at work and the cities in which they are not.

We have the resources in virtually every community to eliminate ugliness and create an efficient and beautiful urban environment—and the same kind of pride that sparks this movement will help to solve every other urban problem. Patchwork problems are not enough. We need city rebuilding plans, and the money and determination to carry them through.

What is needed immediately is a catalyst—something to speed up the process—and I know of no better catalyst than architects. You and your fellow professionals are the only ones who can provide the design skills needed to translate social and economic needs into structures, spaces and beauty.

But without the backing of a knowledgeable and demanding public which knows the difference between good and bad, and insists on having the good, your effort cannot be effective.

I would therefor respectfully suggest to you, as Members of the Michigan Society of Architects, a statewide action program which I believe will be effective and which, as Lieutenant Governor, I would be pleased to cooperate.

First, a statewide conference on urban beauty, out of which would come a master plan for Michigan urban development and land use to promote orderly development.

Second, a statewide system of critiques through which you would call public attention to the good and bad in urban development, praising those communities which have done well and helping those communities which have not done well to be aware of their mistakes and correct them.

And, third, an expansion to statewide scope of the public information efforts already undertaken by committees in many of your present Chapters throughout Michigan. This would include courses on environment not only for school children, but for adults as well. We must have the image of a good city in mind before we can build one.

We, as citizens of this great state, need to be made much more aware of our physical environment. We must learn to plan our cities as carefully as we plan our space program and our business affairs. We need to establish concrete goals and clear priorities. We need to put less emphasis on the negative tool of zoning and more emphasis on the positive tool of planning.

As we learn to see that we are living amid unsavory, unpleasant and largely unnecessary ugliness, we will begin first to react and then to act.

The question, in our exploding population, is not whether we will build, but how we will build. The time is short and you, our architects, are our best hope for guidance and leadership.
NEW PRODUCT STANDARD FOR PLYWOOD

After 2½ years of intensive industry study and expenditure of 191,000 professional man hours and nearly two million dollars of related funds, a new product standard for plywood is ready for promulgation this fall.

The new standard, to be called Product Standard 1-66, will cover the manufacturing of plywood from 30 species which is used in construction and industry. It consolidates three Commercial Standards for plywood which has been established for Douglas fir and Western larch, Western softwood plywood, and Southern pine plywood.

Product Standard 1-66, which will be referred to as PS 1-66, is the first of a new series of standards to replace U. S. Commercial Standards in all industries. It reflects an increased interest in product standards by the federal government.

One of the most significant outward signs of the establishment of the new PS 1-66 will be the appearance of a span-index on construction grade plywood. This index will eliminate reference to species and substitute recommended minimum spacing of framing supports for roof and floor applications.

ONE HOUR RATING

Recent acceptance of one-hour rated plywood construction systems and fire-retardant-treated plywood have substantially increased plywood use in fire sensitive structures such as schools and hospitals as well as large industrial buildings such as factories and warehouses.

Twenty-five floor and roof assemblies relying on plywood as a primary structural element are now included as one-hour assemblies by the Underwriters’ Laboratories.

The one-hour rating means that the system withstood penetration of a test fire under conditions outlined by the American Society for Testing Materials in its Standard Fire Tests for Building Construction (E119).

All major building codes accept the results of tests carried out in accordance with the provisions of ASTM # E119. These codes include the Uniform Building Code, the Basic Building Code, the Southern Standard Building Code and the National Building Code.

The series of fire tests at U.L.’s Chicago facilities were completed a little over a year ago. Even before those tests were made, plywood roof and floor systems received on-hour ratings in many codes. But the U.L. testing program confirmed the adequacy of certain plywood constructions for these ratings.

The twenty-five approved plywood roof and floor assemblies involve various thicknesses of plywood with a fire-resistive gypsum board applied on the opposite side of wood joists.

A typical one-hour floor system involves joists (minimum 2 x 10) spaced 16-inches o.c. with ½-inch plywood, plywood above the joists. Below the joists, 5/8-inch fire-resistive gypsum board is applied. When this system is used in one-hour roof applications, most codes do not require the building paper or top layer of plywood.

Another system, identical for one-floor or roof applications involve 1½-inch plywood (2 x 4) over joists 16-inches on center with the 5/8-inch fire resistive gypsum applied to the underside of the joists.

QUALIFIED FOR “HEAVY-TIMBER” CONSTRUCTION

Plywood is also now qualified for “heavy-timber” roof construction. The “heavy-timber” designation usually refers to beams at least four inches thick with two-inch lumber decking applied over them. “Heavy-timber” construction is widely recognized as being comparable to “one-hour” systems on the basis of actual fire performance.

Current Literature on Fire-Retardant Plywood Systems

Plywood, like all wood, burns. But the architect and engineer can take advantage of its structural characteristics while minimizing fire danger by using a one-hour rated system, heavy timber construction or treated plywood. Additional information on this subject is available...
from American Plywood Association. Two publications in the association's Concepts series, Number 111 and 112, can be obtained free of charge by writing Dept. AE, American Plywood Association, 1119 A Street, Tacoma, Washington, 98401.

Also available is a booklet called "Fire-Retardant-Treated Plywood Roofs" and a list of fire-retardant-treated plywood suppliers. Request Forms No. 65-250 and 65-170A.

**PLYWOOD SYSTEMS FOR RESIDENTIAL CONSTRUCTION**

New plywood floor, wall and roof systems designed and engineered by the American Plywood Association have been developed to help reduce the cost of housing.

In designing the new systems, the plywood association's primary goal was to develop construction methods that used materials to their maximum engineered capacity and yet were so simple to fabricate that a builder could put them together in his own shop.

This is how each of the three systems were used in the development of a prototype house for the NAHB.

**Floor System**

Plywood gussets were used in a new joist-fastening system; combination plywood subfloor-underlayment panels were laid over the joists.

Two butt-jointed floor joists were made to work as one, continuous 28-foot joist through the house, held together with 1/4-inch nail-glued plywood gussets fastened at each side of the joint.

The joists were 2 x 6s instead of 2 x 8s, spaced 16 inches apart. The reduction in size was possible because of the strong plywood joining system and because mechanically stressed-graded lumber was used. Plywood gussets on the joists were all nail-glued in the factory before being shipped out to the job site.

Flooring over the joists was 1/8-inch tongue and groove Underlayment grade plywood, serving as a combination subfloor and underlayment. To make the floor stiffer and reduce any nail back-out, the panels were field-glued to joists.

The systems will help cut costs in these ways, according to David R. Countryman, assistant technical director for research and engineering at the plywood association:

- Reduced material costs.
- The 2-inch reduction in height of the joists eliminates a 2-inch band of framing and siding around the house.
- The butted joist system is designed for fabrication in the builder's own shop, reducing handling and labor costs in moving and installing the pre-spliced joists.
- Application of the plywood flooring will be less costly and faster, since the joists will follow a straight line through the house, making nailing easier.

**Wall System**

Structurally, this consists of 5/8-inch single-wall plywood panels applied to 2 x 4 studs spaced 4 feet apart with cross-framing.

Since 2 x 4 mechanically-stress-grades studs were spaced at 4 feet directly under the roof trusses. Covered with combination plywood sheathing-siding panels, these studs provide the only support for the upper story of the two level house.

On the upper level, horizontal short-length 2 x 4 crosspieces spaced 2 feet apart from floor to ceiling were used to keep the plywood panels from buckling and to provide a nailing surface for them. Wall sections were preframed in 8-foot sections and hauled to the job site.

The lower level of the house used a more conventional framing system.

The new wall system is adaptable to all wiring, insulation and interior wall applications. Several new American Plywood Association-approved coatings for plywood can also be used on the exterior walls.

**Roof System**

The roof features 5/8-inch tongue and groove special plywood panels over plywood-gusseted trusses spaced 4 feet apart. A conventional plywood roof system requires 3/8-inch plywood over rafters spaced on 2-foot centers.

Costs of 5/8-inch plywood are higher, but this will be more than offset by the elimination of half the roof trusses, Countryman explained.

The 4-foot spacing of 2 x 4 trusses is possible because of the use of mechanically-graded lumber and computer designed trusses. Plywood gussets in the trusses show almost no deflection under loads and the are considerably stronger and stiffer than metal gusset trusses, according
to a Michigan State University study.

Plywood gussets on the 28-foot trusses for the NAHB house were engineered to allow the trusses, according to the plywood association, to make maximum use of all lumber and plywood that goes into them.

The trusses were engineered by the plywood association and tested in the NAHB laboratories to a load of more than 100 pounds per square foot.

The Cascade Christian Church, designed by OBryon and Nachtegall Inc. Architects, Grand Rapids, Michigan, utilized an efficiently designed wood framing system to create a major “space” at reasonable cost. The designer in charge of the project was Donald Fritz, and the structural designer was Richard Ziegler. Mr. OBryon described the structural system and evaluates it as follows:

(1) “The upper part of the roof of the sanctuary is in the form of a four-sided pyramid about 60 feet square. Each of the four triangles forming this pyramid is composed of a series of stressed skin panels consisting of 2” x 8” framing members and 1⅝” plywood inner and outer skins. Each of the triangular sections acts as a folded plate diaphragm to transmit horizontal forces to the four corners of the pyramid. Here these forces are absorbed by 1⅛” tension rods which run around the base of the pyramid. The vertical forces on the upper roof are transferred to the base of the pyramid by the stressed skin panels acting in bending, and here they are absorbed by a series of laminated columns which, with an infilling of stressed skin panels, form the lower “sidewall” part of the roof. Thus, the upper part of the roof makes use of “folded plate” design principles, while the lower portion of the roof is simply a series of columns with plywood panels used as infilling and lateral bracing.”

(2) “The budget on this project was rather limited. Plywood decking over wood rafters—typical house construction—seemed to offer the best economy for covering the flat-roofed areas of the building. In view of this, we decided to investigate the possibility of spanning the sanctuary with light framing and plywood used as a stressed skin. We soon became convinced that it was possible to span the 60 feet with stressed skin panels by the use of folded plate action. So we were able to use a light framing and plywood roof structure throughout by using these familiar materials in a more sophisticated way where required by the large span. Plywood was also used non-structurally in soffits and fascias.”

(3) “The framing system of the sanctuary roof was very successful from the standpoint of structural performance, economy of materials, and accomplishment of the desired simplicity of appearance. An added advantage of the system was the ability to prefabricate panels and other parts under cover utilizing economies in both construction and erection.

Photo by Bernie Photographs

INTEGRATED PLYWOOD SYSTEM IN MICHIGAN

The Cascade Christian Church, designed by OBryon and Nachtegall Inc., Architects in Grand Rapids, Michigan, as recently utilized an efficiently designed wood framing system to create a major “space” at reasonable cost. The designer in charge of the project was Donald Fritz.

September, 1966
Laminated Redwood


The standard specifications, which were especially assembled to assist architects and structural engineers, are based on the most recent research and technical experience available.

Peter Johnson, Manager of Technical Services explained, "The structural laminating grades of redwood referred to in the standards were developed from extensive surveys and special studies relating to their use in structural glued laminated timber." "The working stresses for the grade combinations are the result of a statistical analysis of this study. For this reason, the stresses apply only to members laminated from California redwood, manufactured from timber grown within the area defined in the Standard Specifications for Grades of California Redwood Lumber of the Redwood Inspection Service."

The new Standard Specifications data sheet (2A1-4) contains four tables for easy reference, and is illustrated by a number of photographs showing the varied uses of Glued Laminated Redwood.

---

Redwood Acoustic Panceling

Redwood Acoustic Patterns are architect-designed specifically for those interiors which must provide for an acoustical treatment without sacrificing decorative values.

The same time, the warm tones and textures of redwood, strips spaced slightly apart to allow airborne sound full access to absorbent material installed behind the paneling. An inexpensive sound-absorbent material in almost any form (board, blanket, etc.) may be used.

Thus, while the wood itself does not function as an acoustic material, use of the redwood acoustic patterns for paneling or ceilings does enable the effective control of sound by means of the concealed acoustic material. At the same time, the warm tones and textures of redwood, and the visual appeal of the acoustic patterns, contribute to the aesthetic richness of an interior.

Where the design of the building requires hard-surface floors, extensive glass areas, and possibly hard surface ceilings, an opportunity is presented for an effective acoustical wall treatment, or ceiling treatment if walls are hard-surface.

---

The Armenian Congregational Church, Southfield, Michigan will use Glu-Lam arches and cedar roof decking to provide a subtle difference in wood finishes. A skylight runs the length of the ridge of the nave in this structure designed by P-F Associates Inc. Oak Park, Michigan, Nicholas S. Pastor and George D. Fonville, Architects.

photo: Lens-Art Photo

GLUE-LAMINATED REDWOOD BENTS are gracefully in supporting circular glass furniture show room in Sarasota, Florida. Bents measure 25 inches at the thickest point. Photo is from newest redwood data sheet, "Standard Specifications for Structural Glued Laminated California Redwood Timber", available free of charge from Department MSAB, California Redwood Association, 617 Montgomery Street, San Francisco, California 94111

photo by Alexandre Georges

Five variations of the basic Redwood Acoustic Patterns have been tested at an accredited acoustical laboratory. Strips were assembled into panels with two different densities of a commercial Fiberglas acoustical blanket behind. Tests were conducted both with panels placed directly on the test chamber floor; and with a 10-inch entrained airspace behind the system.

The tests showed that the Redwood Acoustic Patterns enhance the sound absorption of the underlying acoustical blanket at low and medium-range frequencies, with an accompanying decrease in absorption at higher frequencies. This effect is highly desirable, since acoustical materials normally over-absorb higher frequencies of sound, which are readily absorbed by furnishings and the air itself. When the pattern and blanket are installed with a 10" air space behind them, greater absorption in the lower frequencies is realized, with a drop in the mid-and high-frequency ranges compared to the blanket alone.

This article was prepared with the cooperation of the American Plywood Association and the California Redwood Association.
TEST CUTS

what do they prove??

Naturally, this sketch had to be exaggerated to illustrate the point we want to make. When a so-called "test cut" is made it is supposed to prove something. We don't know exactly what—but it's something. About all that is really proven is that a certain number of plies were laid and mopped in.

After this sample was tested, we were told that the mopping was "light". No wonder. The sample was taken at a "high" point of the deck and since the bitumen was fluid it sought the lowest level. Suppose the sample had been taken from low areas 'B' or 'C'. Isn't it reasonable to assume that the lab report would come back "heavy"? So, what do test cuts prove?

We feel that IF a test cut is necessary for quality control it should be done VISUALLY and on the job site. Better still—select an R.I.P.F. contractor. He's QUALIFIED, EXPERIENCED AND DEPENDABLE. And... you won't need to waste your time and money taking unnecessary test cuts to prove your spec. was followed.
Seymour Brode, President of Starlite-Aquatech Pools, and Craig Smith, President of Sullivan-Smith Realty, have long been accustomed to working together in the design, construction and landscaping of beautiful pools for Sullivan-Smith projects. This North Park Tower installation is the tenth Starlite pool for Sullivan-Smith! Both men laboriously worked over the final critical details at North Park Towers to insure the flawless completion of this latest Starlite-Aquatech pool masterpiece.

It's the 10th Starlite-Aquatech Pool for Sullivan-Smith Realty says President Craig Smith

Reaching into the sky . . . beckoning to those who would choose living on a higher plane—the Towers of North Park are destined to be a noble monument to the affluence of today's Society.

Three hundred and forty fortunate families will enjoy the luxurious comforts found in North Park which include a Starlite-Aquatech swimming pool and terraced gardens, two levels of heated underground parking, a large commissary, barber and valet shops, a beauty salon, a complete laundry facility and a maid's changing room.

Starlite-Aquatech Pools recognizes no peer in the entire world in the design and construction of outstanding pools for apartments, swim clubs, motels and institutions.

An Exceptional Location. A good urban plan consists of a series of circles. As a resident of North Park Towers, the very hub of your circle is the Northland Shopping Center. Located in the middle is the four-story J. L. Hudson Company Store. The Center also houses a bank, medical clinic, post office and a legitimate theater. Ranged in an outer circle are Northland Towers, a nine story office building; a seven story Medical-Professional Building; the 350 bed Providence Hospital and the North Park Towers.

Home of Starlite-Aquatech Pools. This beautifully landscaped display pool and office, which was conceived and built by Starlite-Aquatech, is also a landmark in Southfield, Michigan. Located just five minutes from Northland and the North Park Towers, on Northwestern Highway, this poolarama attracts the attention of thousands of motorists daily.
Golf Tournament Prize Winners

The following winners in the Golf Tournament held at the 23rd Annual MSA Mid-Summer Conference at the Grand Hotel, August 4-6, 1966, received their prizes at the annual banquet on Saturday evening.

**Women**

<table>
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<tbody>
<tr>
<td>Gross 1st</td>
<td>Bee Hallett</td>
</tr>
<tr>
<td>2nd</td>
<td>Marlene Koukl</td>
</tr>
<tr>
<td>High</td>
<td>Peg Inman</td>
</tr>
<tr>
<td>Low Net 1st</td>
<td>Harrietta Griffith</td>
</tr>
<tr>
<td>2nd</td>
<td>Phoebe Grylls</td>
</tr>
<tr>
<td>3rd</td>
<td>Muriel Johnson</td>
</tr>
<tr>
<td>4th (tie)</td>
<td>W. Ellis</td>
</tr>
<tr>
<td>4th (tie)</td>
<td>Clare Tilds</td>
</tr>
<tr>
<td>Closest to Hole 1st</td>
<td>Jean Livingston</td>
</tr>
<tr>
<td>2nd</td>
<td>Norman Inman</td>
</tr>
<tr>
<td>Long Drive 1st</td>
<td>Martha Ellis</td>
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<tr>
<td>Pro Pool 1st</td>
<td>J. Livingston</td>
</tr>
<tr>
<td>Pro Pool 2nd</td>
<td>W. Ellis</td>
</tr>
<tr>
<td>Pro Pool 3rd</td>
<td>Clare Tilds</td>
</tr>
<tr>
<td>Pro Pool 4th</td>
<td>Donna Rossetti</td>
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**Men**

<table>
<thead>
<tr>
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<tr>
<td>Cross 1st</td>
<td>Mike Sonk</td>
</tr>
<tr>
<td>2nd</td>
<td>J. Panella</td>
</tr>
<tr>
<td>High (Tie)</td>
<td>P. Nicholas</td>
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<tr>
<td>High (Tie)</td>
<td>A. Durkee</td>
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<tr>
<td>Low Net 1st</td>
<td>Gene Smaltz</td>
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<tr>
<td>2nd</td>
<td>Bob Mau</td>
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<tr>
<td>3rd</td>
<td>Fred Wigen</td>
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<tr>
<td>4th</td>
<td>Chase Black</td>
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<tr>
<td>Closest to Hole 1st</td>
<td>Ross Briffith</td>
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<tr>
<td>2nd</td>
<td>Don Forest</td>
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<tr>
<td>3rd</td>
<td>Paul Fleck</td>
</tr>
<tr>
<td>Long Drive 1st</td>
<td>John Grylls</td>
</tr>
<tr>
<td>2nd</td>
<td>Carl Walker</td>
</tr>
</tbody>
</table>

**Producers’ Cup (Architects Only)**

| Low Gross          | Bob Wold        |
| Low Net            | Fred Wigen      |
| Pro Pool 1st       | F. Wigen, Jr.   |
| Pro Pool 2nd       | Bob Mau         |
| Pro Pool 3rd       | P. Meathe       |
| Special Golf Prize | Fred Wigen      |

The prizes were contributed by Aluminum Company of America; American Saint-Gobain Corporation; Bauer-Foster Floors, Incorporated; Beaver Distributors, Incorporated; Builders’ Exchange of Detroit & Michigan; Ceco Corporation; Century Brick Company; W. Dale Crizes—Day Brite Lighting; Darin & Armstrong, Incorporated; Detroit Edison Company; Down Chemical Company; General Electric Company—Lamp Division; Kaiser Aluminum & Chemical Sales; Madison Electric Company; Michigan Consolidated Gas Company; Natco Corporation; O. O. McKinley, Incorporated; R. C. Mahon Company; Owens-Corning Fiberglas Corporation; Precast/Schokbeton, Incorporated; Producers’ Council Incorporated, Michigan Chapter; Reynolds Metals Company; Sheet Metal Employers—Industry Promotion Fund; United States Steel Corporation; Westinghouse Lamp Division.

The very successful tournament was due to the untiring efforts of the committee members Frank E. North and Walter Scott.

**Conference on Aging**

**Set for Ann Arbor**

The University of Michigan announces the 19th Annual Conference on Aging to be held in Ann Arbor, September 26 thru 28, 1966.

The purpose of the conference will be to explore the multiple dimensions of evolving an environment which not only matches the needs of aging individuals but also encourages these same individuals to meet the challenge of an ever-changing milieu.

The Conference will be divided into three phases. The first phase will establish a comprehensive profile of the American city today and its older people. Included as an integral part of the initial phase is a concern for how the major socializing institutions of the family, education, religion and government can attune themselves to and deal with the profound social changes of the future.

The second segment begins with a general inquiry into how the social psychological climate of the city effects the lives of older people. Proceeding from this examination will be study groups each led by a team of specialists who will concentrate on an in-depth investigation and discussion on the major questions and issues pertaining to the dynamics of environmental styles and how these are related to affecting an urban society compatible with the aging process.

The final portion of the conference will synthesize the interactions of urban and aging specialists in order to anticipate the shape of the future and chart new approaches in solving mutual problems.

For registration information write to Wilma Donahue, Chairman, Division of Gerontology, 1510 Rackham Building, Ann Arbor, Michigan.
P.C. Introduces New Officers

The Michigan Chapter, Detroit-Area, of the Producers’ Council announced 1966-67 officers at the annual golf outing held recently at Meadowbrook Country Club. Producers’ Council members and architect-guests in attendance heard a discussion of the past year’s activities and were introduced to the new Board of Directors.

Fred H. Blackwood, president, Beaver Distributors, Inc. received the gavel from Richard Grinnell, U.S. Plywood Corp., outgoing president. D. J. Blake, Jr., Stylon Corp., was named first vice president; Henry Hall, ALCOA, became second vice president. Also assuming office were D. M. Forrest, Century Brick Co., and Ed Kerr, Zonolite Division of W. R. Grace Co., as secretary and treasurer.

The Producers’ Council is an association of quality building products manufacturers and is the only organization directly affiliated with the American Institute of Architects. The local Detroit-Area Chapter has 47 members.

George Nelson to Speak at Festival

George Nelson, FAIA, will be the featured speaker at the Detroit Chapter’s Allied Arts Festival to be held on Saturday, November 19. Nelson, prominent architect, author, lecturer and industrial designer will speak on “Synthetic Environment.” Reservations may be made for the Festival by calling the Detroit Chapter office, 965-4100.

State Fire Safety Board Information Requested

William Hofer, Chairman of the Detroit Chapter Schools Committee has requested all practicing architects and engineers in the state to participate in the clarification of the fire safety code requirements. A letter mailed on May 11, 1966 outlined the formation of the new “board of appeals” that will make and adopt reasonable and standard rules pertaining to fire safety requirements, and shall act as a hearing body to review and render decisions on any contested case involving the school, nursing home or home for aged persons fire safety rules, or any ruling of the fire marshal in his interpretation or application of the rules.

Modern builders rely on ready-mixed concrete for efficiency, dependability, and quality. This emblem signifies a mark of distinction and attests that the ready-mixed concrete producer who displays it proudly has pledged his firm to emphasize quality and service to his customers. You can be sure that members of the Michigan Ready-Mixed Concrete Association are prepared to deliver the highest quality product... carefully conforming to the most rigid specifications... and backed by the service capabilities of highly trained technicians. When you order ready-mixed concrete look for this emblem as a sign of quality.
Architects and engineers are asked to assist the Committee in obtaining any information on the following:

1. Please indicate any questions you have concerning the Fire Prevention section of School Bulletin 412.

2. Please indicate any questionable rulings or interpretations you have received from the Fire Marshal concerning the Fire Prevention section of School Bulletin 412.

3. Please indicate in what areas the Fire Prevention section of School Bulletin 412 needs to be expanded, revised, or clarified.

4. Please indicate your knowledge of conflicting requirements between State and local fire marshal's offices, and make whatever recommendations you feel are pertinent in order to resolve these differences.

5. Please make whatever suggestions or recommendations you wish concerning fire safety, the improvement of fire safety, or fire safety regulations and implementations.

The Detroit Chapter AIA, Schools Committee will summarize the replies and make this information available to the "State Fire Safety Board". All inquiries regarding this material should be sent to William R. Hofer, Chairman, Detroit Chapter Schools Committee, 28 West Adams, Detroit 48226.

Course On Construction Law Begins September 20th

The Institute for Construction Management sponsored by the Builders Exchange has scheduled a course in Construction Law to begin September 20, 1966. This course has been offered several times and has proven itself to be one of the most outstanding courses in Construction Law available. To insure the best possible instruction this course will be limited to the first 40 persons enrolled.

The course will meet on Tuesday evenings from 6:30 P.M. to 8:30 P.M. starting September 20th and running through October 25th. Total cost is $36.00 per student. The classes will meet at the Builders Exchange building at 1351 East Jefferson.

To register by mail, please send your check for $36.00 made out to the Institute for Construction Management to Builders Exchange.
ANNOUNCEMENTS

A comprehensive new 16-page color brochure on construction of educational buildings is now available to architects, engineers, contractors and education officials from Timber Structures, Inc.

The booklet, called “Your Dollar’s Worth of School Building,” describes classrooms, libraries, gymnasiums, cafeterias, auditoriums, and dining rooms built with beautiful laminated wood beams. Information on all of the types of beams and trusses manufactured by Timber Structures, Inc., is carried in a special two-page section. Data on decking systems available from the firm is also included.

For your copy of this reference brochure on school construction, No. TSG 40, write Timber Structures, Inc., P.O. Box 5782, Portland, Oregon. 97208.

The Board of Directors of the Michigan Society of Professional Engineers have elected Robert D. Sallen, P.E. of Acorn Iron Works, Inc. as Second Vice President for the coming year.

Mr. Sallen has been active in the association for many years serving as a board member and chairman of the Program and Engineers’ Week Committees.

Gunnar Birkerts and Associates, Architects, formerly at 1300 North Woodward in Birmingham have relocated their offices to 909 Hanes Street, Birmingham, Michigan 48011. Telephone 644-0604. They are pleased to announce the appointments of John D. Hilberry, AIA, and Edward G. Rosella as associates in the firm.

Z. T. Gerganoff announces his new firm name of Z. T. Gerganoff and Associates, Inc. with offices at 103 West Michigan Avenue, Ypsilanti. The telephone number is HU 2-6028.

Lastar Electric Company announces the opening of a new office in the Fairfax Office Plaza, Suite 210, 15650 West Ten Mile Road, Southfield, Michigan 48050 Phone 353-7202. Warehouse and warehouse offices remain at 8625 Lyndon, Detroit, Michigan 48238, Texas 4-9887.
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licensure of degree. Position offers opportunity for advancement, competitive salary and excellent fringe benefits. Interested applicants please call or Oakman, Detroit, Michigan. 48208.

WANTED—Architectural Draftsman


WANTED—Registered architect to work in higher education in State government in Lansing. Administration only, no drawing. Begin around $10,000 a year with automatic raises to $12,500 within 4 years, plus 13 days vacation, 13 days sick leave, Christmas bonus, partial payment of health and life insurance, generous retirement benefits, etc. Phone area code

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  - Aggregates, Reconstituted materials,
  - Curtain Walls, Sealants, Insulation, Paints, Steels,
  - Pipe, Plastics, and other construction materials.

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Phone: 313-2100

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**CALENDAR**

1966

**September**
- 14 Detroit Chapter Dinner Meeting, Ford Motor Company, American Road, Walter B. Ford—Guest Speaker
- 30 Conference on Historic Preservation—Detroit

**October**
- 1 Historical Society—Detroit Chapter, AIA
- 6 Annual Meeting and Election, Detroit Chapter, Ponchartrain Hotel
- 25 Dr. Constantinos Doxiadis presentation of Phase “B” Engineering Society of Detroit

**November**
- 19 Allied Arts Festival, Detroit Chapter, Tour of Common Ground. George Nelson—Speaker, Detroit Institute of Arts—South Wing

1967

**April 12, 13 & 14**
- MSA 53rd Annual Convention—Civic Center, Lansing

**April 13-15**
- Gulf States Regional Convention, Hot Springs Arkansas

**May 10-12**
- Wisconsin Chapter, Lake Lawn Lodge, Delavan, Wisconsin

**September 8-10**
- New Jersey Society of Architects, Essex and Sussex Hotel, Spring Lake, New Jersey

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classic use of
Slag aggregate...

design/French Renaissance
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Slag aggregate is commonly associated with massive runways, busy expressways, parking areas, etc. But the same properties—durability, light weight, high bond, economy and others—make its use advantageous in almost any type construction.

Detroit's newest showpiece, The Hotel St. Regis is a prime example of Slag's versatility and structural efficiency. Foundations, footings, columns and slabs of the building are of structural Slag concrete. Isn't that reason enough to look into the material benefits of Slag in your projects?
Architectural creativity demands more distinctive colors, more exclusive textures, and more adaptable sizes. Belden Brick satisfies this demand.

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