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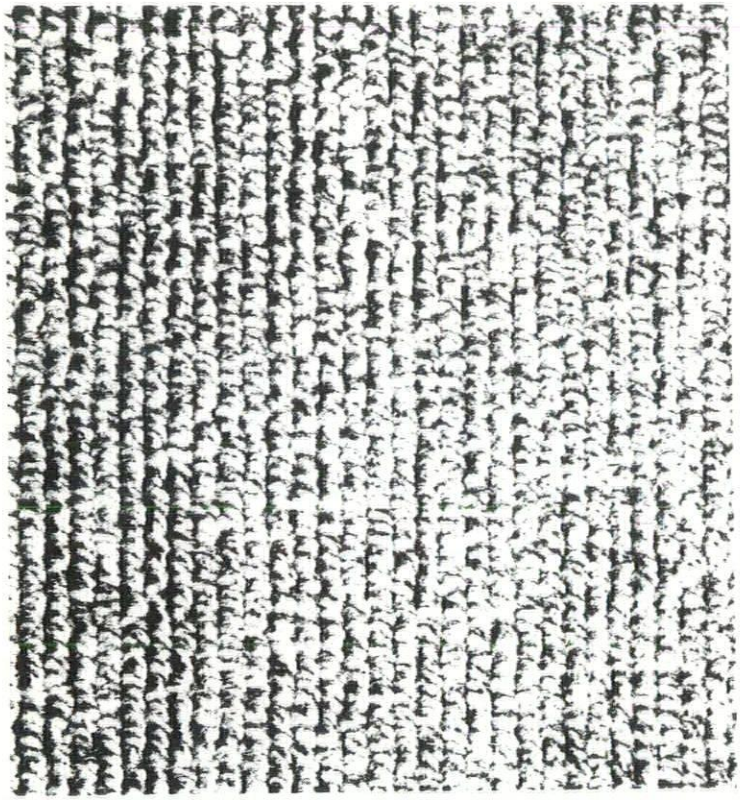

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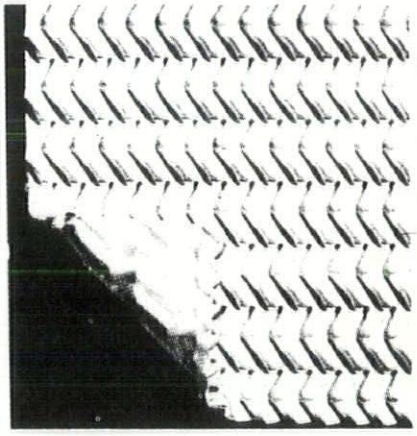

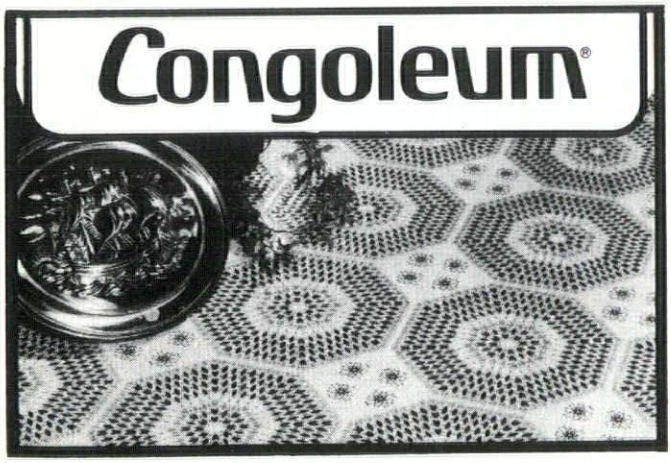

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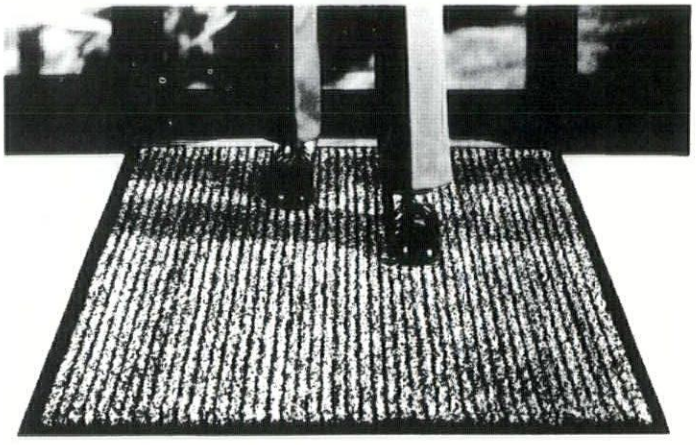

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HAWAII ARCHITECT

OCTOBER, 1977

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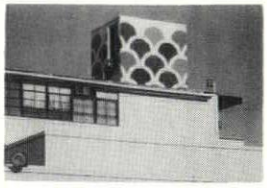

Cover: Relic of past energy consumer

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The present telephone building is the sixth addition to the company's two-story structure built in 1909, fronting Adams Lane between Alakea and Bishop Streets. The building is unique in that it houses complex communications equipment as well as business and executive offices. Architects were Wimberly, Whisenand, Allison & Tong (now Wimberly, Whisenand, Allison, Tong & Goo) and Roehrig, Onadera, Kinder, Inc. General contractor was Reed & Martin.

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Hawaii Energy Challenge

by SENATOR T. C. YIM,
Chairman, Senate Energy/Natural Resources Committee

There are two basic aspects to Hawaii's energy challenge. First is that in the not too distant future, be it 20, 40 or 60 years, the world will be out of oil. Hawaii currently imports more than 90 per cent of its total energy needs in the form of oil, most of which is from foreign sources. Simply stated, we must develop other sources of energy to replace oil.

Secondly, the cost of energy, primarily oil, to meet Hawaii's needs is high, and it will be much higher—sooner than we would like. In 1976, Hawaii's bill for imported oil was more than $500,000,000. The cost of other forms of energy will be very high, at least initially, especially for the capital or first cost.

Hawaii does not have any fossil fuel resources such as coal, oil, natural gas, or shale oil, though some of these will be in Hawaii's future, again coming in by ship. Nuclear energy is another possibility which faces some strong opposition. Fusion or hydrogen energy may ultimately be the primary form of energy, but this will be some time off.

In spite of these realities, Hawaii's energy future is encouraging. It is conceivable and increasingly possible technically that Hawaii can become energy self-sufficient in the next 30 to 40 years. There is significant promise that geothermal energy and the sun's energy in its many forms can provide much if not all of Hawaii's energy.

The Hawaii Legislature has provided some $3,387,715 from 1972 to 1976 which, coupled with federal grants of $4,831,500; counties, $280,000; and private support of $503,700 has provided some $9,002,915 to help meet the energy challenge in our state.

This past session, we appropriated an additional $1,35,602 for the current biennium, to support the energy programs of the Department of Planning and Economic Development, the university (Hawaii Natural Energy Institute), and the Natural Energy Laboratory of Hawaii.

Currently the Energy/Natural Resources Committee in the Senate has been undertaking a comprehensive review of Hawaii's energy program. Special task forces have involved over 100 of Hawaii's most knowledgable leaders in the various aspects of energy. Their assistance in helping to develop a sound legislative program has been a great help in shaping a very significant program that will be submitted to the legislature in January.

The task forces covered energy conservation, potential of a stronger Hawaii-Alaska relationship, geothermal, hydroelectric, solar, wind, ocean energy, biomass conversion, and solid waste conversion. In addition, a comprehensive energy task force has reviewed the issues and recommendations of the sub-task forces and the concerns of the state's energy organization, financing alternatives, and a state energy plan.

In brief, some 50 specific bills were suggested and possible capital improvement items of $15 million—plus a special need for Kauai of $17 million and consideration of the City & County solid waste "resource recovery plant" costing $70 million to $85 million.

While the counties can and should support some energy programs, especially in areas of their primary responsibility such as solid waste; and while private enterprise traditionally has financed energy programs, generating plants, etc., there is a need for possibly greater state participation because of the complex nature of the challenge facing us.

The foundation of President Carter's national program is in the conservation of energy. It costs one-tenth as much to conserve energy as it does to produce energy. Yet energy conservation is not popular. We had some difficulty last session passing an important energy conservation bill.

There is a need for energy efficient standards in building codes, public buildings, and in public procurement policies. Not only is it critical we reduce energy waste, but the federal government has mandated that unless we adopt such standards, we will lose not only important energy funds, but also major federal financial programs critical to our banking and construction industry.

The AIA national office under contract with HUD is now developing these standards with which we must comply once they are adopted by HUD—or else! AIA support will be critical to get this legislation enacted.

There are many other pieces of energy conservation legislation that will be before us the next session. Each one can help.

As for alternate energy sources, full development of our geothermal and solar resources is vital. Geothermal may provide a major share of our energy requirement—now that we know it can be tapped.

Private enterprise will be chiefly responsible for its devel-

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Hawaii Energy Challenge

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opment from here on, with support and encouragement from the government.

One issue is the transmission of this energy from the Big Island to the other Islands, especially Oahu, where our greatest energy need is. We are proposing an engineering study for a deep ocean cable system that could be utilized for this purpose.

The sun's energy can provide a great deal of energy either directly or indirectly. Solar water heating is the best immediate technology that is cost effective, but again, high initial capital outlay is required by the homeowner or builder.

The federal tax credit, along with the state tax credit (currently 10 per cent but an increase is under consideration) will help overcome this obstacle. Hawaii's goal should be 100 per cent solar water heating by the year 2000.

Architects can play an important role in this.

Other direct solar energy applications such as air conditioning, photovotaic cells, solar engines, and such are not yet cost-effective, but they will be. We are planning some demonstrations in Hawaii.

Indirect solar energy such as biomass conversion, namely the burning of bagasse from sugar cane, is already providing an important source of energy (40 per cent of the Big Island's electrical needs).

Major effort is underway to increase that with the help of the University of Hawaii, the Department of Planning and Economic Development, the Energy Research and Development Administration (ERDA), and the Hawaiian Sugar Planters' Association (HSPA).

Other energy crops such as eucalyptus trees, algae, corn, and others are under serious consideration. One can get either electrical energy from burning these crops, or by other technologies, ethanol or methanol liquids, methane gas, or forms of oil can be achieved.

Ethanol can be mixed effectively with gasoline, providing a good way to "stretch" our petroleum reserves.

Wind is another form of the sun's energy that has a 150-200 megawatt potential for our state, and we are looking at various demonstrations where wind speeds are sufficient, since the cube of the wind velocity is the key to the amount of energy that can be generated.

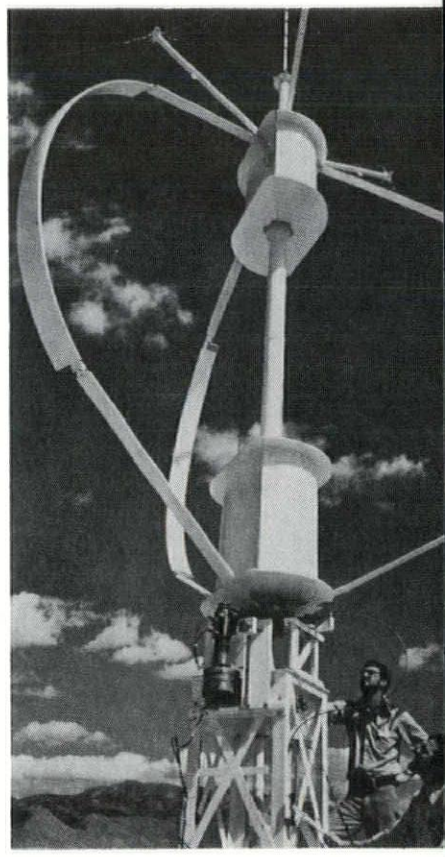
Ocean Thermal Energy Conversion (OTEC) has great potential in the longer term for Hawaii, though it is only in the early stages of research and development. Some of the more important R&D is going on at Ke-ahole Point in Kona.

We hope that a major expansion of this work will be approved by the legislature as well as ERDA and even some private interests. The thermal gradient difference can generate the energy to drive a turbine to generate electricity, though the efficiency is very low.

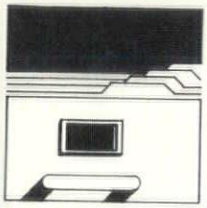
In all this, one thing stands out: Though Hawaii's energy challenge can be met, solutions that are or will be available cost a great deal of money. Assuming $1,000 to $2,000 a kilowatt of power capital cost, Hawaii's total bill for new energy sources to meet 100 per cent of our needs say by the year 2020 will cost $6 billion to $12 billion dollars. One way or another, we the consumers or tax payers will have to foot the bill.

We are already paying a half billion dollars a year for oil, so the total bill may not be as painful as one might first think. We are considering a modest 1 per cent surcharge on fuel oil to help fund the state's energy program.

An "Energy Revolving Trust Fund" could be created to help get the needed R&D and the most viable program implemented. We can and we must meet this great challenge in Hawaii.



The Darrieus vertical axis wind turbine system has curved airfoil blades that are in position to accept wind from any direction.



AIA Energy Task Force

By GEORGE BEREAN, AIA, Co-Chairman

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Committee reports

Early this year, the Hawaii Society/AIA Energy Task Force drafted the following policy which was sent to Senator T. C. Yim, chairman of the House Committee on Energy/Natural Resources.

I. ENERGY SOURCES

A. Self-Sufficiency

Until such time that Hawaii is energy self-sufficient and no longer depends upon an outside source of fuel for the provision of energy, that the transportation of this fuel to Hawaii be exempt from any disruptive actions.

B. Renewable Sources

As a long-range goal, Hawaii should further encourage the development and use of renewable sources of energy, such as solar, geothermal, wind, hydroelectric, ocean thermal energy conversion.

II. ENERGY CONSERVATION

A. Performance Standards

We strongly recommend that the ultimate, long-range energy policy for the built environment within the State of Hawaii be centered around the concept of an energy budget for each building (existing or proposed), otherwise known as a Performance Standard.

Our reasons for this recommendation are:

1—It will allow a more precise control in the reduction of energy consumption.

2—It will encourage the development of new energy saving devices.

3—It reflects the spirit of cooperation between the government and private sectors of this state.

4—It allows the designers and owners of buildings the most flexibility to remain within a given energy budget.

B. Prescriptive Standards

We are currently evaluating six building types from high-rise office, hotel, and condominium to low-rise office, with the Hawaii Chapter, ASHRAE, energy committee, using the ASHRAE 90-75 program. The results of this evaluation will be available around mid-February. We feel that ASHRAE 90-75 should be influenced by the results of this analysis. The impact of energy legislation should be carefully studied as to its impact on the total economic well being of our community.

We do strongly recommend that this standard be subject to the following conditions:

1—That it is intended solely as an interim measure.

2—That it "self destruct" as soon as an acceptable Performance Standard be developed.

3—That it may be amended to adapt to the unique conditions found in Hawaii.

4—That it have a nonprohibitive alternate design clause included in its text.

C. Amendment and Revisions of Existing Laws and Standards

Much energy could be saved if various government agencies would be willing to do the following:

1—Reduce ventilation requirements.

2—Reduce lighting requirements.

3—Encourage the use of solar protection devices without penalizing the development potential of a property, i.e., projecting roof overhangs, window shades, and such into required setbacks.

4—Encourage the use of energy conservation through tax incentives.

III. SUMMARY

In conclusion we respectfully recommend that:

- Our present energy life line to the outside be exempt from disruption.
- The development of renewable sources of energy should be encouraged.
- The development of an energy performance standard for the built environment be adopted.
- ASHRAE 90-75 be adopted, provided that it is temporary, will expire as soon as performance standards are developed, and it can be amended to suit Hawaii's unique needs.
- Various government agencies revise and amend existing standards, policies, and so forth, to encourage the conservation of energy.

Since then, our activities have included the following:

1—Reviewing and commenting on proposed state legislation and county ordinances pertaining to energy conservation.

2—Conducting a survey on several existing buildings using the ASHRAE 90-75 standard. (No appreciable change would be acquired for high-rise construction.)

3—Volunteering to participate in the national energy audit as a data base for the 1980 National Energy Performance Standard.

4—Participating in an Energy Conservation for Existing Building Seminar held at the University of Hawaii last April. Jim Pearson represented the AIA.

Of special interest to the Hawaii Society/AIA is the proposed Honolulu Building Code revision Chapter 53-UBC, which will incorporate ASHRAE 90-75 as a standard. The following is a sample of that ordinance:

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ASHRAE 90-75

by ROBERT HAMILTON
Chairman of Hawaii Chapter
ASHRAE Energy Committee

LEX SCRIPTA
Codes/Law

Like the passengers on the Titanic, we Americans are dancing while we head for what could be a disaster in energy. True, we saw small "ice floes" in the long gas lines a few years ago. But most of us didn't—and don't yet—realize that the "floes" meant deadly "icebergs" ahead. We don't understand how much time it will take to put our country on a safe energy course. We could, like the men on the bridge of the Titanic, end up spinning the wheel too late.

The U.S. relies on oil and natural gas for some 75 per cent of its energy. With the economy improving, we have imported oil to the point of near flood. Foreign oil now supplies almost half our demand. Within two years, it may hit two-thirds.

Any day—tomorrow—the organization of oil exporting countries of the Mideast could stop most of the flow as they did in 1973, and cripple us in a matter of days. We are extremely vulnerable, but few Americans know it.

But even if the exporting countries don't block the flow, eventually—and relatively soon—it will stop anyway, for the world simply will not have enough oil to keep burning it as a fuel. Though we don't see it, we already have a crisis situation. It will get worse every year, and from two directions: As oil and natural gas reserves dwindle, we and the rest of the world keep using more and more, faster and faster.

Following the OPEC crunch of 1973, development of a document governing energy usage in all types of new construction was undertaken by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) following a request by the National Conference of States on Building Codes and Standards (NCSBCS) in February 1974.

Over a period of 18 months, ASHRAE undertook a methodological approach in developing a voluntary standard. In the course of development, they issued two working drafts for public comment and subsequently fielded numerous suggestions for improvement from both ASHRAE members and other representatives of the design/construction industry.

In its final form, the document was entitled, ASHRAE Standard 90-75: Energy Conservation in New Building Design, and it was released by ASHRAE's Committee on Standards in August 1975.

To date, ASHRAE Standard 90-75 is the first major voluntary consensus standard concerning energy utilization in new buildings available for optional acceptance by the individual state and local governments even though the standard has yet to enter the approval process of the American National Standards Institute (ANSI).

Both its format and much of its content is based upon a previous document released in February 1974, by the National Bureau of Standards (NBS), again at the request of NCSBCS.

The U.S. Department of Housing and Urban Development (HUD), under Public Law 94-385, is responsible for the development, promulgation, and enforcement of energy performance standards for all new construction. The Energy Research and Development Administration (ERDA) is, through its various research, development and demonstration activities supporting that HUD function.

One necessary step to the successful implementation of the standards that will be promulgated by HUD is the incorporation of energy standards in the overall code process and provision for the training of code officials in the evaluation of designs and the enforcement of codes based on these energy standards.

To achieve this goal, ERDA has, through a contract with NCSBCS, brought together all the major national building code organizations in the effort to develop a model code for energy conservation in new building construction. The building code organizations have pooled their technical resources and experience to produce this code, which is based upon the standards developed by ASHRAE, known as ASHRAE Standard 90-75. This code was designed specifically for states and localities so it can be adapted to answer to their particular conditions and problems.

In January 1977, the preliminary draft of the proposed Model Code for Energy Conservation in New Building Construction was released for public review. This draft is the result of the joint efforts of NCSBCS and the three model code groups, Building Officials & Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO) and Southern Building Code Congress International, Inc. (SBCC); it incorporates ongoing code development efforts by the model code groups, individually and through Board for Coordination of Model Codes (BCMC) and

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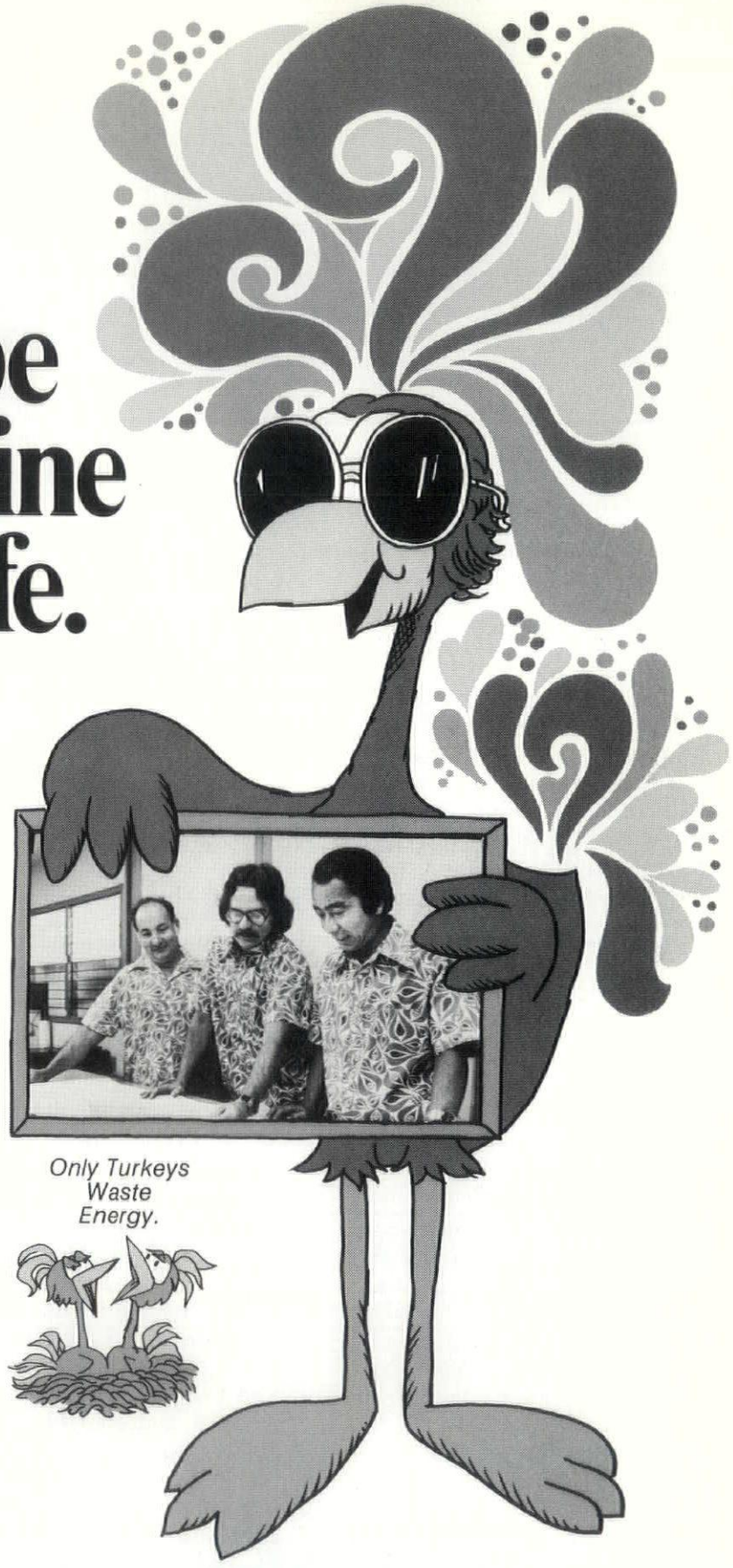

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ASHRAE 90-75

Continued from Page 8

Council of American Building Officials (CABO), as well as various state energy efforts.

This proposed code is based on the ASHRAE 90-75 standard and does not alter its technical content. However, it does restructure ASHRAE 90-75, and adds accepted practice provisions for certain buildings. The intent of this code is to provide a means of implementing the provisions of ASHRAE 90-75. The code has been restructured into a three-path approach. Compliance with any of these paths produces a code-complying building.

- Path 1 (Section 4 of the Code) is the systems analysis method, ASHRAE Chapters 10 and 11.
- Path 2 (Section 5 of the Code) is the components design, ASHRAE Chapters 4, 5, 6, 7, 8 and 9.
- Path 3 (Section 6 of the Code) contains acceptable practice provisions for conventional residential buildings of three stories or less or small commercial buildings of wood-frame or masonry-wall construction. This section of acceptable practice permits these structures to be constructed in accordance with designated provisions in lieu of performing a thermal analysis. There are a number of limiting conditions where these special provisions may not be applicable.

This code is only one aspect of a larger joint program being conducted by the involved organizations. These organizations are designing training programs and materials for state and local building code officials, which will assist in the implementation of energy efficiency standards. Additionally, they will examine the problems hindering acceptance of technological innovations and make recommendations for resolving them.

The second phase of this long-term HUD program has been entered into as a contract with the AIA Research Corporation to establish baseline data on the designed energy performance of recent buildings.

This information will be used by HUD for comparison with technically possible energy performance in later phases of the HUD program. Energy performance standards or "budgets" reflecting reasonably designed energy performance will be promulgated by HUD for residential and nonresidential buildings by 1979.

The HUD Energy Performance Standards development program is phased with the aim of rapid development of a working standard which can be thoroughly tested, evaluated and updated prior to the date re-

quired for promulgation of the final standard.

In order to develop such standards, in whatever form they may take, buildings must be classified by type, climatic regions must be defined, and current designed energy performance must be documented. Current designed performance, to be documented in phase one of the contract, will set an absolute upper limit for energy budget figures.

In later phases of the contract, an initial lower limit will be determined by redesigning the building types in the various climatic regions. This redesign will incorporate as many energy efficient designs and concepts as the state of the art permits. The goal of this redesign will be to stimulate the maximum reduction in energy consumption possible without altering current life styles or accepted design practices.

Buildings will also be redesigned according to the HUD Minimum Property Standards for energy conservation and ASHRAE 90-75 to determine the reduction possible using current regulations and guidelines.

Using minimum, maximum and intermediate values, trial Building Performance Standards will be developed for the purpose of demonstrating and testing on a national basis the validity of the budgets selected.

Sample designs of various types of buildings will be run to test the feasibility and impact of the proposed standards. Economic impacts in the various climatic regions will also be tested. Taking account of the various tests and comments, operational standards will be developed and published in the Federal Register for public comment.

It is interesting to note that in compiling information on the designed energy performance of more than 3,000 recent buildings, AIA Research Corporation has not included any Hawaii, Alaska, Puerto Rico or any other tropical climate construction in their considerations or study scope.

For each sample building, the professionals will be requested to provide designed energy performance data, as well as the design parameters of the sample building.

Data requirements will include principal uses, building size parameters, hours of occupancy, number of building users, envelope parameters, mechanical and electrical systems parameters, operating parameters, and designed energy performance.

Alternative data processing techniques will be evaluated by AIA Research Corporation on the basis of relative accuracy in modeling energy performance, as well as cost and time for processing. The selected technique will provide a consistent basis on which to compare designed energy performance.

Analyses and reports will include:

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ASHRAE 90-75

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1—Tabulation of data by building type and climatic region.

2—Various statistics such as mean, median, standard deviation and variance for designed energy performance by building type, by climatic region and by building design parameters.

3—Frequency distributions and cumulative frequency tables for various percentiles.

The information derived from the sample buildings will be entered into the cells of the classification matrices. This information will represent the designed energy performance of recent buildings.

The product of the project will be baseline information for analysis and comparison by HUD in the continued development of professionally sound and technically achievable energy budgets for buildings designed to satisfy human requirements.

The implementation of any national energy conservation standard for building design requires the widespread use of computers, as indicated above, to conduct hour-by-hour peak load and annual energy calculations. For example, Section 10 of ASHRAE 90-75 requires detailed and comprehensive calculations based upon 8,760 hours of operation of the building and its service systems annually. Although there are several sophisticated computer programs available based upon the dynamic simulation of hourly building performance, they are very complex and proprietary, and this discourages their use in the average engineering office.

Even in large, multi-discipline offices where structural and civil engineers routinely use computers, the mechanical and electrical engineers remain skeptical and must be pushed into using them.

The most successful computer programs are extensively documented and written so the design engineer can make step-by-step verifications with hand calculations to assure technical correctness. The older, experienced engineers are extremely skeptical of computerized procedures and prefer to rely on judgment and time-tested shortcuts, while younger engineers often look on the computer as the only way to go, even though they are costly to implement.

Where legal liabilities are born by establishment of energy budgets, and ongoing energy performance audits, defenses of judgment and time-tested shortcuts will crumble under the attack of hour-by-hour calculations of all building loads over a full year of weather data.

A new dimension has entered the professional worlds of architects, engineers, and attorneys with the birth of energy budgets for buildings as the EUI. This is the abbreviation of Energy Utilization Index which is the translated energy performance of buildings expressed as units of energy per unit consumed per year per unit of floor area.

Not only will the building design of the future be required to meet the budget limits established by AIA Research Corporation for HUD but the actual measured performance which must be reported to the Federal Energy Administration (FEA) in future years will be monitored for compliance. First steps of this implementation have already been imposed on the Building Owners and Managers Association in their annual Building Experience Exchange Report by FEA.

Just as the underwriters of the professional liability insurance thought the corner had been turned on A&E claims, the specter of EUI litigation looms on the horizon as owners find their building operating performance does not comply with optimistic design projections and FEA performance standards requiring expensive retrofit corrections and/or severe limitation of building operating hours.

The bright side to the energy budget question comes in the form of a positive statement "It Works." After two years of implementation, the Florida Life-Cycle Energy Evaluation Technique (FLEET) computer program has resulted in increased energy savings of 55 per cent in state-owned and leased buildings.

Correspondingly, energy manuals, which dictate total energy budgets a building must meet, were revised downward in March 1977 and will be revised downward again before this year's end.

Several months after the FLEET program was put into effect, as mandated by Florida law, studies were undertaken on

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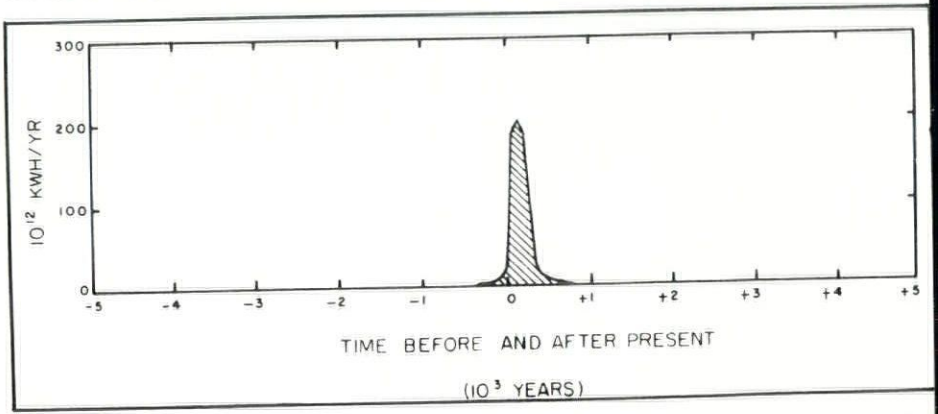
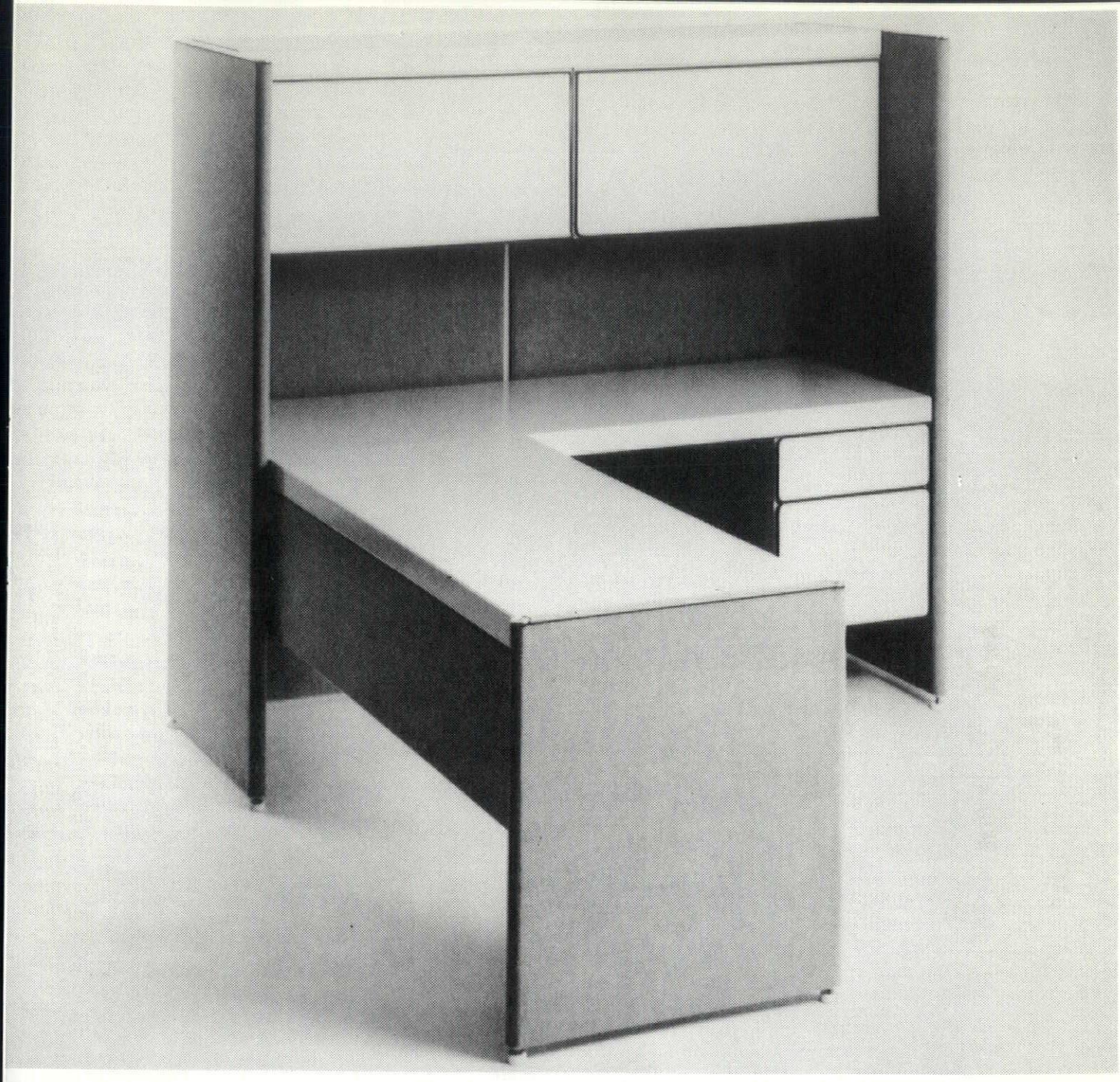


Figure 1—The epoch of fossil-fuel exploitation as seen on a time scale of human history from 5,000 years ago to 5,000 in the future.



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- Delivery 10–12 weeks

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ASHRAE 90-75

Continued from Page 12

nine buildings. Data put through FLEET's computer program projected the full cost of all proposed state buildings including lifetime operating costs and construction price. This information was used to evaluate the energy-efficiency of competing designs for new buildings and to evaluate energy consumption in existing state structures.

Energy savings at that time were put at 50 per cent. Now, after analysis of 22 buildings, these savings have increased by 5 per cent to an overall savings of 55 per cent. Over a 10-year period at a 7 per cent energy escalation, this 55 per cent savings figure represents benefit to the State of Florida in excess of $13 million.

While the State of Hawaii is not blessed by the existence of their own, unique version of FLEET, there is more than ample talent and expertise available to provide comparable effects for the new construction of the state in both public and private sectors. Conscientious and creative professional contributions to building design will eliminate the wasteful excesses in lighting energy and unconscionable disregard for solar window transmission of heat at the time of design development.

Innovations such as windows of a building varying in height, dependent on which direction they face, with full height on the north and lesser fenestration on other elevations will become the seal of the concerned architect and designer. Also, optimum design considerations must be extended for the opaque wall surfaces to assure minimum thermal transmission is effected through the building envelope.

Paint and Architecture

by ERIC ENGSTROM

Eric Engstrom is an associate in charge of graphics and interior design with Architects Hawaii, and teaches interior design at the University of Hawaii.

The art of wall and building painting is as old as architecture itself. In prehistoric times, humans painted their caves. During the Egyptian era, many pyramids and tombs were treated with what is known today as painted decoration. Recently, a series of events have brought a new interest in building painting, either combined with or fighting architecture. The three areas which have had the most impact are wall painting, so called "super graphics," and the re-integration of color into architectural design.

On the East and West coasts, there have been publicly sponsored programs for building painting. The Institute of Contemporary Arts in Boston has had a program of wall painting, mostly on the end walls of brick row houses.

The Boston example came about as an "artists" program sponsored by the city and the institute. It consisted mainly of "Folk Art" painting on large expanses of flat wall space. In poorer areas such as Roxbury and the South End, many buildings have been decorated with anti-racism themes, symbols of solidarity, and other humanistic designs.

In Los Angeles at about the same time, two "schools" of building painting emerged. The first used the Chicano influence of large strokes of color and traditional motifs; the other was super-realistic wall painting featuring pastoral scenes painted on commercial buildings.

Here in Hawaii, the building painting boom has just begun. In some cases, designers have taken existing buildings and applied new color designs. In other areas, the folk art style painting has been attempted on Kapiolani Blvd. at the Jean's Fate Building, and along Nimitz Highway at the old Waldron feedmill.

There are three current approaches to building painting; the first is the folk art approach. The artist or designer basically ignores the character of the building being painted and comes up with scenery or idealized landscapes which stand on their own.

The second approach is that of renovating an older building and applying color to emphasize architectural detail. This has been done successfully in the Matteo's Restaurant/Royal Tavern Building and the Wing Wo Tai Building in Merchant Square. These buildings were painted by William Williamson, a California designer.

The C. Brewer Chemical Plant and Hawaiian Life Building by Bruce Hopper, and Clarence Lee's Palolo Homes are other examples of this approach. In these cases, there is a respect for the architectural integrity of the building.

The third area which is quite new here in Hawaii is the use of color and so-called "super graphics" on new buildings. Two projects where this approach was used are the Kihei Town Center in Maui and the Liberty House Distribution Building in Ewa. Both graphic treatments were designed as an integral part of the architectural design by the writer.

A problem in design of a color program for a building is "which approach to take?" It is the writer's feeling that unless there is a "blank wall," the architecture cannot be ignored. Some of the buildings which have had a folk art approach have become nonbuildings. They are merely canvases where the painter's or designer's imagination has run riot. In an older building, the designer must look at and respect the architectural elements or the building will disappear.

Hawaii is still mostly untested ground for the designed approach. The main problem in Honolulu is "what is a sign and what is not a sign?" The official code approach to "super graphic" painting is that a logo or trademark must not appear within the painted area. If lettering is applied to or within a large scale painting, then the entire painting becomes a sign and usually exceeds the maximum area limitations.

A recent example is the Beretania St. location of New American Music. An aerial view of the island of Oahu was painted on the side of the building with lettering in the center. The city ruled that this was a billboard type sign. By removing the lettering from the side of the building, it became again a decorative feature that was not necessarily advertising the product within.

It seems that there must be clarification as to whether a "super graphic" mural is a sign, a wall decoration, or a method of painting. A probable test case could be on the old Waldron Feedmill. The landscape with trees being painted is one which completely overwhelms both the neighborhood and the building itself. Whether the scale and color used is a blatant promotional device for the building's tenants is a judgment that the City & County will have to determine.

In one sense, controls are

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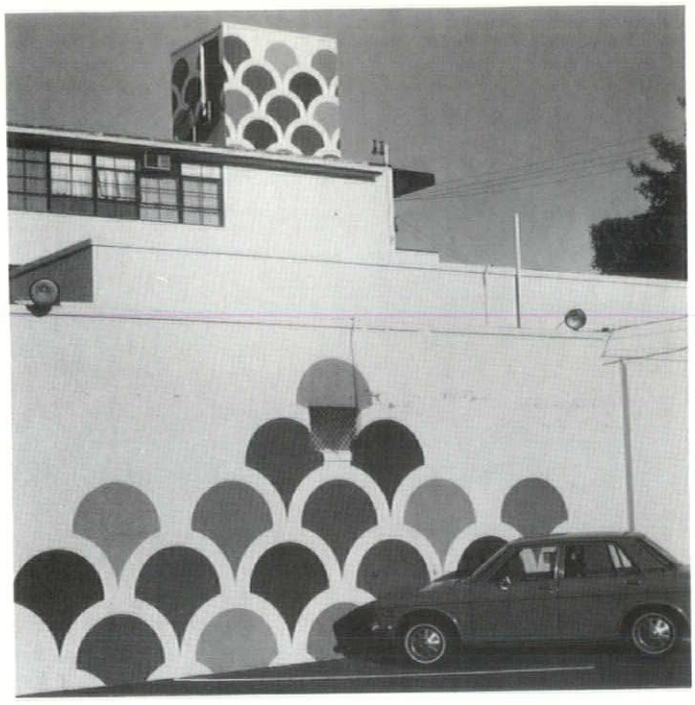
Paint and Architecture

Continued from Page 15

probably not good because they limit self expression. However, it seems that in some cases people are trying to get as close as possible to the letter of the law without being actually illegal. Only time will tell whether the building painting phenomenon will have a long or short life in Hawaii. Until there is a clarification in the signing code as to what constitutes a sign and what constitutes building painting, we are going to have some problems.

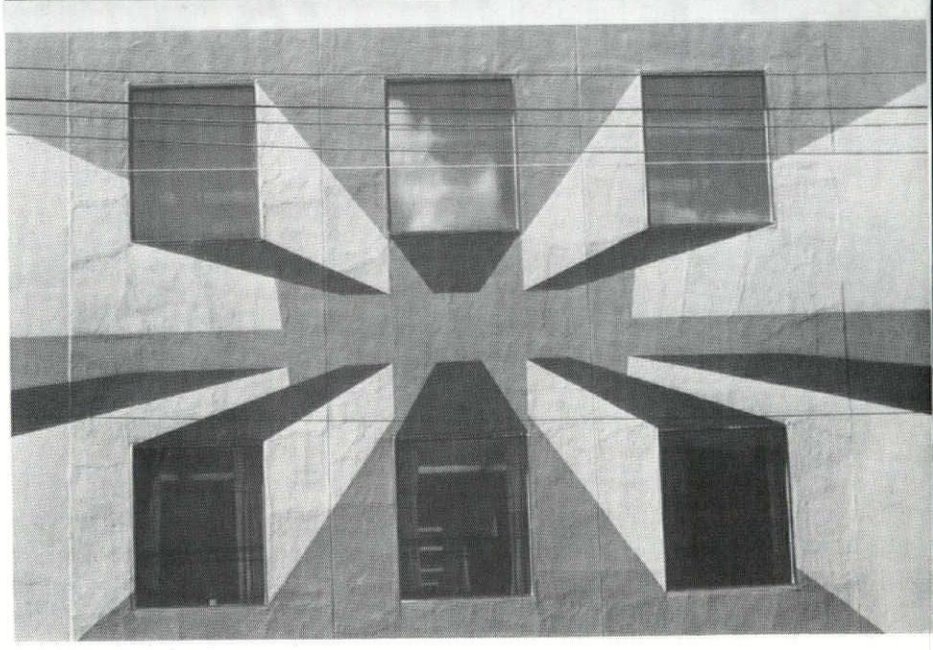
One opinion is that wall painting on a building should not come under the scrutiny of the sign code unless it is a blatant violation or an obvious attempt to make a building into a billboard. Brewer Chemical is an example of tastefully done building painting which gives an identity to the company, but has respect for the landscape and the buildings around it. However, some feel that this type of approach limits creative expression and folk art potentialities.

The problem appears to be with us for quite a while and requires serious study by architects and designers. The criteria is to find a solution which is aesthetic, but encourages the vitality and diversity necessary in today's urban landscape. HA

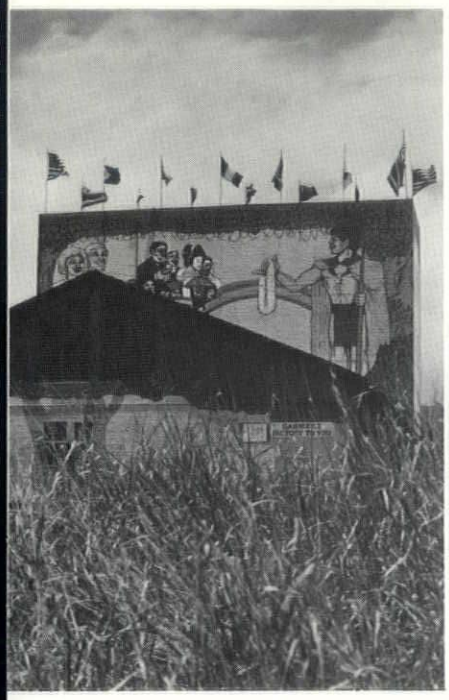


1545 S. Beretania St.
Clarence Lee

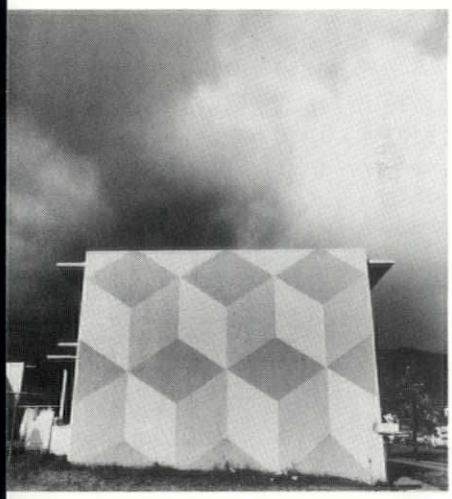
Graphics on the sides of building:
Is it freedom of expression, or is it good taste vs. bad?

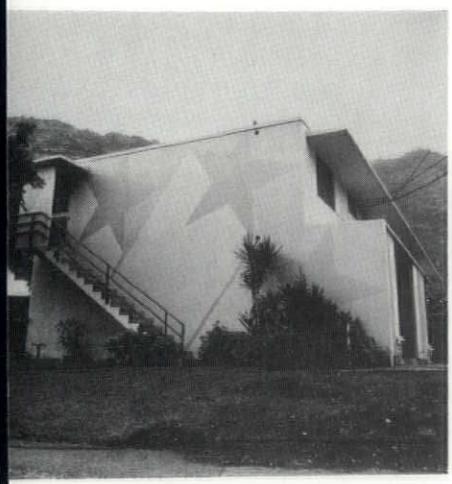


838 Beretania St.
Bruce Hopper Designs, Inc.



Waldron Feedmill at Nimitz Highway





Palolo Housing
Clarence Lee

BALLPOINT comments

Billboards

by THOMAS B. SELLERS, JR.
President and Creative Director, Sellers Advertising, Inc.

What's a wall graphic? Ask 10 persons and you'll get 10 answers—all different. As most wall graphics are afterthoughts or serve as coverups and/or signage, I find them out of place. I do not mean to include renovations or repainted buildings that, when finished, are enhanced by the complementary changes. I am singling out the would-be muralists who use their eyewash to call attention to tourist traps, hotels, or otherwise dull-looking buildings. The essence of the issue is taste and let's face it, everybody has his own.

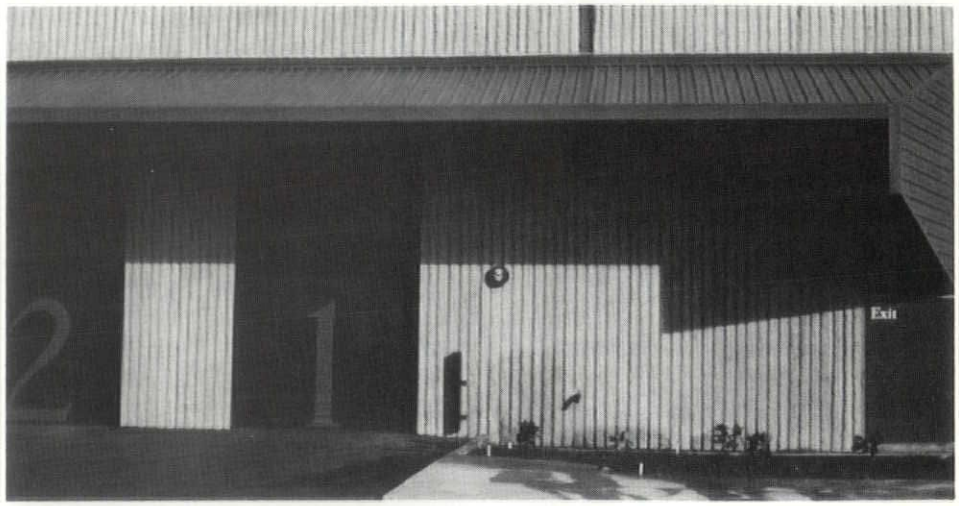
As the owner of a sign company I am sensitive to all forms of outdoor communication. In fact, I have taken pictures of murals and large building signs all over the world, and am looking forward to a book soon to be published called, "Walls." It is written by serious photographer and collector, Deidi Von Schaewen.

This book deals with this very subject. It is comprised of hundreds of pictures that illustrate that walls can be an excellent medium for the artist with taste.

On the Mainland, billboards are commonplace and serve as effective sales devices. Hawaii also has billboards. Most local super graphics or murals attempt to be soft sell messages. These are billboards, not art. I call these "Loophole Art."

"Loophole Art" is becoming popular with the retail trade and, if unchecked, will become an overnight monster. I feel that any exterior murals or graphics should be submitted in four color rough form to a qualified review board prior to execution. By qualified I mean people who have experience in the fields of architecture, graphics, or industrial design—not businessmen or city employees such as those responsible for Hawaii's least attractive art, the automobile license plate.

As an illustrator, artist, designer, and advertising man, I feel a wall should remain as it was intended . . . to house, shelter, and protect people and things against the elements . . . not as a vehicle for soft or hard sell and not as a canvas for an artist or muralist to exhibit personal tastes for all to see. HA



Liberty House Distribution Center
Architects Hawaii

Building from the Recession, Opportunities in an Energy Scarce Society

by HOWARD C. WIIG

Howard C. Wiig is an energy analyst with the State of Hawaii Energy Office, specializing in conservation. The views expressed are his and are not intended to represent the views of the State of Hawaii.

The Dodo Bird in a Glass Box

It is entirely possible that many architects are seriously considering seeking employment as dishwashers in structures they helped design because they, like the dodo bird, failed to learn the rules of the new game in town. Today, geopolitical rules are shifting faster than Sonny and Cher shift partners, and woe betide the professional who fails to keep abreast of changes.

Many architects dream of a return to the era of cheap energy and of high-rise glass boxes proliferating as abundantly as dandelions in the New England springtime. But if Jimmy the Greek had a choice between placing his bet on the reemergence of cheap energy or the resurrection of the dodo bird, he would bet on the bird.

One reason that our economy is floundering so badly is that many leaders have not yet faced up to the geopolitical implications of America's soaring dependence on foreign oil, and its soaring price. But this presents opportunities, especially in restoration, for the alert architect.

The central theme of this article is that while the Good Old Days (for architects) of a 17 per cent per annum growth rate in Waikiki are gone, the architect can rise like a phoenix from the ashes of the recession—which was largely brought on by quadrupling oil prices.

We will touch briefly on new laws on energy efficiency which are rapidly emerging in legislatures and building departments nationwide, and then focus on reasons why the economy is favorable for architects who concentrate on reestablishing the commercial viability of old buildings.

A New Act Governing Energy Efficiency

Hawaii and the other states recently received funding to implement the Energy Policy and Conservation Act of 1975. Administered by the State Energy Office, the act includes two provisions which mandate changes in local building codes.

The practical effect of one provision is that the counties in Hawaii will probably adopt codes for new and renovated buildings based on (but not necessarily a carbon copy of) ASHRAE 90-75 standards. The AIA will be coming out with their own proposed energy-efficient code as early as 1979.

The practical effect of the other provision of the Energy Policy and Conservation Act is that lighting standards will be established for existing public buildings. The standard will probably be a literal compliance with the lighting levels recommended in the Fifth Edition of the Illuminating Engineering Society Handbook.

Other provisions in the act which affect architects are programs for waste heat recovery from air conditioning systems, life cycle costing, and programs to assist building owners and managers with energy audits.

On the off chance that the reader questions the need for such laws, suffice to summarize that the nation is importing over eight million barrels of oil every day, which translates into $1 million flowing out of the country every 15 minutes! Over $100 million is transferred to foreign hands each day. The resulting massive trade deficit devaluates the dollar, which leaves less investment capital with which to create new jobs and alleviate unemployment.

The Recession and Conventional Wisdom

The quadrupling of oil prices is especially important to architects for two reasons:

1—It has reduced the amount of investment capital available to finance new construction.

2—Construction itself is an extremely energy-intensive activity. Half the cost of concrete goes to pay for the energy consumed in producing the product.

This situation would seem to corroborate conventional economic wisdom, which holds that rising oil prices raise product prices, which cause reduction in demand and hence reduction in real output and a higher interest rate, and hence less investment capital. Or, taken to the consumer's level, rising energy prices cause inflation in personal consumption goods, which in turn lowers aggregate production and employment.

What these equations fail to consider, however, is that there is a night and day difference between products: there are energy-intensive products, and labor-intensive products.

This gap in logic is caused by conventional economists' usually unarticulated tendency to see the GNP as a pie which ideally continues to grow ad infinitum. To cause growth, they say, the pie must be fed either more capital or more labor, and all the attendant by-products; more income, demand, production, money—and energy.

What these economists do not point out, however, is that labor and capital are not substitutable in a time of high energy prices;

Continued on Page 22

THE ELEGANCE : VALUE RATIO.

gance. Tasteful luxury, dignified richness understanding the difference between "get- ality and excellence.
ue. That misused word that can fit the pur- apple, original art or a condominium.
the Royal Iolani we believe we are offering elegance : value ratio in Hawaii. Why? Be- know what is going into the Royal Iolani. apartments per floor, room-size lanais, teak- inets throughout, kitchen countertops in a of decorator colors, your choice of elegant bathroom tile, refrigerator-freezer with icemaker, central air-conditioning and a rainbow of carpets from which you can select.

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Exclusive Sales Agent **Stark Realty, Ltd.** Visit Stark Realty's sales lion in the Wailana, open daily from 9-5 p.m., 1860 Ala Moana ., Suite 414, Honolulu. Validated parking in the basement. **Phone -6302.** Courtesy to brokers.

Student Energy Conscious Design Competition

The National Student Competition in Energy Conscious Design was held among professional schools of architecture in the spring of 1976. The competition was part of a larger project sponsored by the Federal Energy Administration, to bring energy conscious design into the mainstream of architectural practice and education.

Fifty-five schools participated, submitting 115 entries which were reviewed by the competition's National Review Board on June 23, 1976. Twelve entries were selected as Entries of Distinction.

Among the Entries of Distinction was the Urban Survival Shelter, designed by Colin Shimokawa, Russell Watson, Paul Flehmer and Bruce Flynn, students at the University of Colorado at Boulder.

Shimokawa is a graduate of the University of Hawaii, Department of Architecture, and has since received his Master of Architecture from the University of Colorado. He is presently employed by Wimberly, Whisenand, Allison, Tong & Goo Architects, Ltd.

The Urban Survival Shelter is designed to promote energy consciousness and ecological awareness among residents of Block 11 of the Denver Urban Renewal Authority. Program requirements were determined through research of the existing urban conditions within Denver, and the predicted needs and energy demands of a future urban community.

The students write:

"Project goals emphasized creation of a sense of place, interaction with the environment, and ecological awareness. The design places emphasis upon energy use, food production, and recycling waste."

Levels one and two are commercial lease space; services responding to particular community needs are available on the subgrade level. Professional office space is on the third level; the remaining nine skip-loaded floors contain 300 residential units.

The students give an account of consideration leading to their solution:

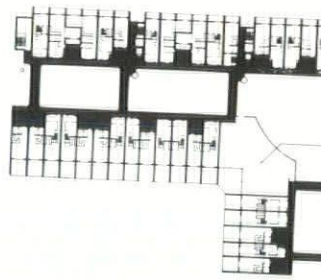
"Climatological design response can be seen in the building form, illustrated by opening the southern facade to the sun and natural breezes, while minimizing the northern and western exposures. We used a semi-conditioned atrium as a thermal buffer to minimize impact on the mechanical systems. Natural lighting and flow-through ventilation are accomplished by operable skylights covering the atrium."

A 10-story open community space, centrally located complex, is to serve as a market for community goods and services. The designers envision it as a place for meeting and interaction among citizens, government and business.

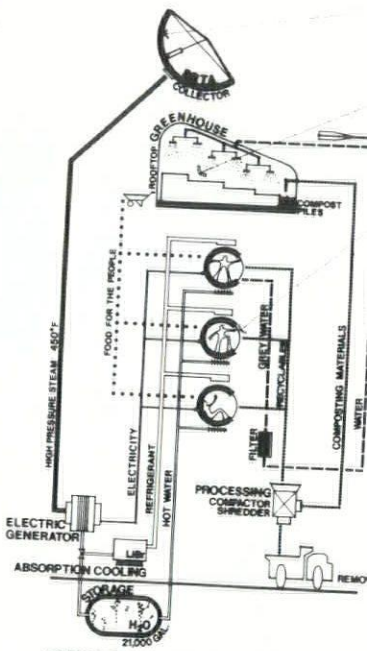
"The mechanical systems are given strong expression for educational purposes, encouraging the inhabitants to become aware of life support systems. Active solar collection is accomplished with a 45-foot-diameter SRTA steam system supplying 100 per cent of absorptive cooling, 85 per cent of hydronic heating and 25 per cent of the electrical demand."

The SRTA collector is an experimental device developed by Dr. W. Gene Steward at the University of Colorado. A fixed

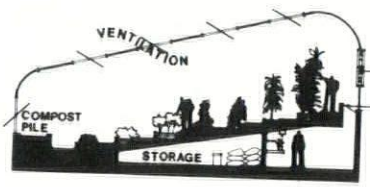
LEVEL 1
COMMERCIAL



LEVEL 3
HOUSING

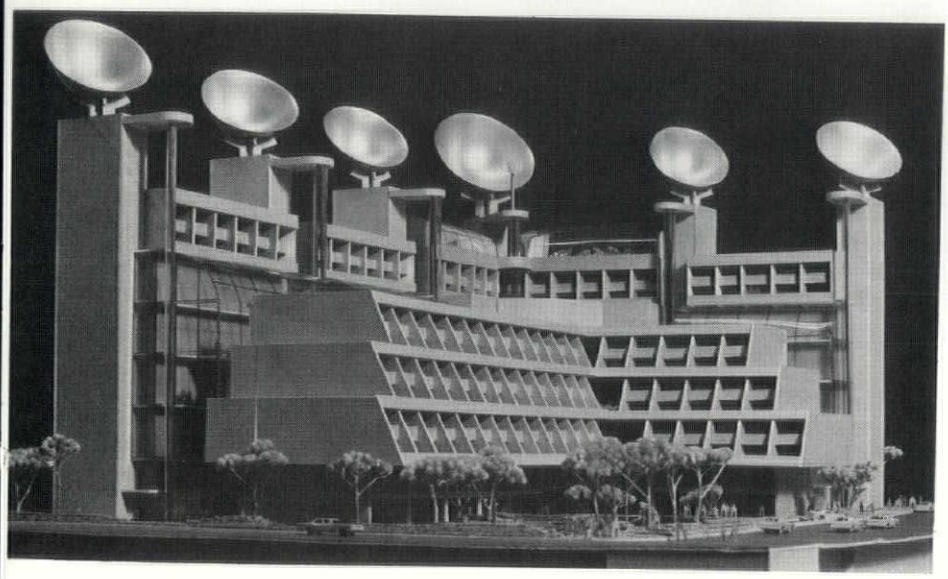


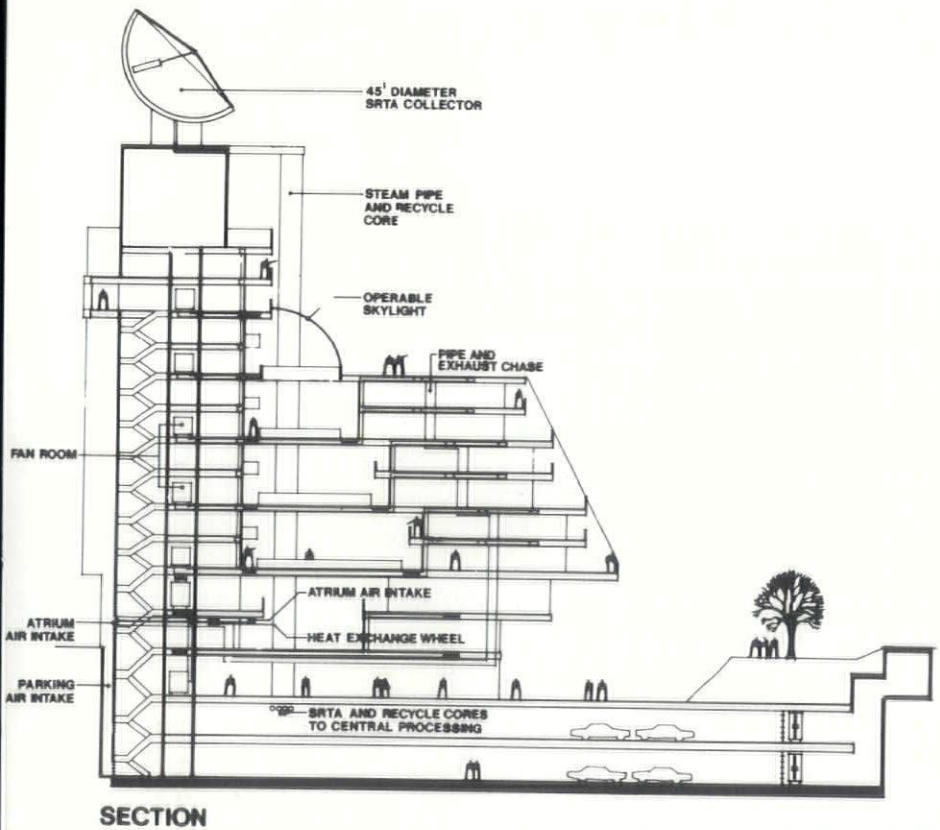
SYNECOLOGICAL RELATIONSHIPS



GREENHOUSE SECTION
1/8" = 1'-0"

A winning student design shows how working with natural forces can save energy





SECTION

MECHANICAL SYSTEMS

Mechanical systems include wheel heat exchangers between atrium intake air and exhaust from unit bath and kitchen. Domestic water is preheated by coil heat exchange with grey water and solar storage. Low-velocity variable volume air handlers are used on every other floor and equipment loads are distributed evenly day and night, due to mixed-use nature of building.

reflecting concentrator focuses the sun's energy, which is captured by an absorbing tube that travels to "track" the sun's movement across the sky. High temperatures obtained by the system are used to produce steam.

The students claim considerable advantages for the SRTA system, among which are economies resulting from smaller surfaces and lighter construction techniques than would be required for flat plate collection devices. They also note that in the event of encroachment by future development nearby, the collectors would be raised on towers to clear obstructions.

Their design also calls for recycling of wastes:

"Recycle cores pneumatically carry metals, papers, and glass to processing for removal from the site. Processed organic garbage supplies compost for the roof top greenhouses, which in turn produce 50 per cent of the vegetable needs of the residents. Filtered grey water, pumped by the wind generator, supplies the greenhouses with irrigation." FA

Building from the Recession

Continued from Page 18

that if one separates the economy into energy-intensive and labor-intensive sectors, investment in the energy-intensive sector in effect changes the economic metaphor from an expanding pie to a balancing scale—more capital placed on the energy-intensive side results not only in less employment, dollar for dollar, but in less per-dollar productivity and economic stimulus.

There are three reasons for this:

1—Energy intense industries are highly receptive to automation.

2—Half of our oil is now imported.

3—They tend to encourage energy waste, not productivity.

Energy and Waste

President Carter stated that America's energy waste in transportation is 85 per cent and in generating electricity 65 per cent. Overall, 50 per cent of our energy is wasted, the President claims. A good analogy to energy waste is food waste—it is like producing 100 million tons of wheat and allowing rats to eat 50 million tons of it.

Let's look at some energy-intensive industries. Two of the most energy-intensive of all are aluminum and steel.

Between 1959 and 1969, employment in the steel industry declined from 450,000 jobs to 100,000 while production and energy use increased. In the Pacific Northwest, the aluminum industry consumer 20 per cent of the region's power and supplied only 0.5 per cent of the region's jobs.

Much of the aluminum, of course, went to produce throwaway soda and beer cans.

Similarly with the energy industry itself: between 1950 and 1971, jobs in energy-producing industries increased only 5.5 per cent — primarily due to the increase in service station attendants. In the utility industry, between 1961 and 1973, KWH output increased 130 per cent and revenues increased, but employment increased only 21 per cent. In contrast, total employment increased 41 per cent between 1950 and 1971 and jobs in merchandising and service sectors increased by 95 per cent between 1954 and 1790.

In all, major energy-producing and energy-using industries consume about one-third of the nation's energy, yet directly provide only about one-tenth of the jobs. Dennis Hayes summed it up: "To the extent that the consumer conserves fuel and spends the money on something else, he will provide more employment as well as use less energy."

Thus, if a proponent of conventional wisdom finds an example where during a given period, the GNP rose 10 per cent, employment rose 10 per cent, and energy use rose 10 per cent, thus "proving" that you can't have one without the other, one must ask: what if considerable energy waste had been eliminated during that time, so that energy use increased only 5 per cent — wouldn't the increased efficiency have kept that much more

Continued on Page 27

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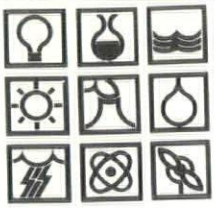

ENERGY

No Hot Air on Molokai

Burn up about three calories of your own energy right now by filling in the registration form below and sending it to the AIA office.

ENERGY! That's what the logo above is all about and that's what the HS/AIA State Convention on Molokai is mostly about. You will notice that the logo does not contain a symbol for hot air. That's because you won't get any of that during this two-day convention.

What you will get is a chance to participate with other architects, engineers, landscape architects, planners, interior designers, economists, environmentalists, historians, and many other interested parties as they probe problems that face us today and tomorrow.

Among the subjects to be discussed will be "Energy and The Pacific Basin," "Energy and Interior Environment," "Hawaii's Environmental Carrying Capacity," "Historic Perspectives in Hawaii," and "Future of Kalaupapa." Featured speakers will include David Heenan, Dr. Richard Marland, Dr. Barnes Riznik and others.

ENERGY! During the leisure hours on Molokai, that is something you can either expend or save as you wish. For those who want to expend energy there is organized golf, tennis, Kalaupapa mule rides, wildlife park excursions, and scuba diving, plus hiking, swimming and dancing.

Those who want to save energy can lay on a mile-long beach, relax on a grassy lawn, recline under a shade tree, snooze on a private lanai, stand up at a party or sit down at a banquet.

ENERGY! The HS/AIA, the Sheraton Molokai, the friendly people of Molokai, SeaFlight and the airlines are all anxious to expend their energy to educate and entertain you. HA

CONVENTION PACKAGES

A. Complete convention plan for single participant
1. Friday and Saturday nights at Sheraton Molokai, single occupancy
2. Friday evening flight via Aloha or Hawaiian Airlines from Honolulu to Molokai
3. Sunday afternoon return trip to Honolulu via Seaflite
4. Bus transportation on Molokai between hotels and terminals
5. Saturday breakfast, lunch, and dinner (banquet) at Sheraton Molokai
6. All convention functions except recreation options on Sunday

B. Complete convention plan for couple
1. Same as Plan A above except with double occupancy hotel room for Friday and Saturday nights

C. Single participant without transportation
1. Friday and Saturday nights at Sheraton Molokai, single occupancy
2. Saturday breakfast, lunch, and dinner (banquet) at Sheraton Molokai
3. All convention functions except recreation options on Sunday

D. Couple without transportation
1. Same as Plan C above except with double occupancy hotel room for Friday and Saturday nights

E. Single participant / banquet and lodging
1. Saturday dinner (banquet) at Sheraton Molokai
2. Saturday night at Sheraton Molokai, single occupancy

F. Couple / banquet and lodging
1. Saturday dinner (banquet) at Sheraton Molokai
2. Saturday night at Sheraton Molokai, double occupancy

ACCOMMODATIONS FOR CHILDREN

Children are welcome to accompany participants to the convention and accommodations will be made to include children in the convention packages. Since the various price schedules based on age and number of children make the establishing of set plans difficult, an exact cost will be developed upon receipt of the list of children in your group and will be attached to your billing. The following will give you an approximate indication of costs:

A. Transportation (includes air, sea, and ground)
1. Age 2 and under—Free
2. Age 2 to 11 years—$23.50 per child
3. Age 12 to 19 years—$40.00 per child (group 1/2 fare with sufficient numbers)

B. Room
1. No charge for one (1) roll away bed for children below 17 years ($7.00 charge otherwise)
2. Limit of one roll away bed per room
3. Single occupancy—$30.00 per night
4. Double occupancy—$35.00 per night

C. Meals (includes breakfast, lunch and dinner on Saturday)
1. Ages 13 and older—$24.00
2. Ages 12 and under—$12.00
(Note: Meals to be served in separate area under supervision.)

D. Babysitting
Babysitting service is available for Saturday night at the Sheraton Molokai. Arrangements and cost will be established upon request. Check Option 7 if service is required.

OPTIONS

Activities listed under options are scheduled for Sunday November 20th and will be organized as response warrants. Fee for activities will be collected at the convention except for Option A, Mule Ride, which will be included in convention billing.

A. Mule Ride (Sunday)
1. Round trip bus transportation from Sheraton Molokai
2. Round trip mule ride to Kalaupapa or one-way mule trip and one-way flight (depending on number making trip)
3. Tour of Kalaupapa and lunch
4. Limited to 50 people (lottery for spaces if number exceeds 50)
5. Age requirement is 16 years and older
6. Weight limit is 200 lb. maximum
7. Approximate cost is $30.00

B. Historic Molokai Tour

C. Tennis Tournament

D. Golf Tournament

E. Molokai Ranch Co. rare animal farm

F. Scuba Diving

G. Babysitting. See ACCOMMODATIONS FOR CHILDREN

REGISTRATION FORM

Deposits will be credited to Convention Package cost and will be refundable for cancellation before November 1, 1977.

Billing for convention cost, including cost for family plans, will be sent out on October 1, 1977 with payment due on November 1, 1977.

Late registration charge of $15.00 for registration after October 15th. Registration after November 1, 1977 subject to availability. No refunds after November 10, 1977.

For additional information, call AIA office—538-7276.

Name _____

Firm Name _____

Address _____

Telephone No. _____

Spouse's Name _____

Children & Age _____

PACKAGE	COST
☐ A	$155.00
☐ B	$230.00
☐ C	$115.00
☐ D	$150.00
☐ E	$ 60.00
☐ F	$ 80.00

☐ Enclosed is my deposit of $25.00 payable to HS/AIA

	No. of Persons
1. Mule Ride	☐ ____
2. Historic Molokai Tour	☐ ____
3. Tennis Tournament	☐ ____
4. Golf Tournament	☐ ____
5. Molokai Ranch Tour	☐ ____
6. Scuba Diving	☐ ____
7. Babysitting	☐ ____

"The second tidal wave wiped us out completely."

"The new Cafe 100 had been open only 21 days when the 1960 tidal wave hit. We lost our home, our business, everything. We could have gone bankrupt.

"Fortunately, First Hawaiian Bank picked me up when I was down. No other bank would help. I had no collateral, no security . . . but they took my word. I told them . . . 'I'll be honest with you. The only thing I can do is be faithful and work hard to make my business go.' That was good enough for First Hawaiian.

"For over thirty years I've been with First Hawaiian Bank. After I was discharged from the Army's 100th Battalion, I didn't have much capital. I didn't even know much about the restaurant business, but I wanted to start a small cafe. So I borrowed a little money from what at that time was called Bishop Bank. They were generous . . . they gave me a loan so I could get started. Cafe 100 opened in January 1946; but in April the first tidal wave hit. I'm fortunate I dealt with First Hawaiian. They told me 'Don't give up.'

"Two tidal waves and thirty years later, we're still with First Hawaiian . . . with personal and business checking, savings accounts, personal loans, mortgage loans, SBA loans, profit-sharing, trust accounts . . . everything!

"Anyone who goes into business should go all-out, that's all I know. We've sacrificed a lot of time . . . and business has been good. I'm thankful to First Hawaiian Bank."

Richard Miyashiro Cafe 100 Hilo, Hawaii

First Hawaiian Bank

The bank ® that says yes

Member: FDIC

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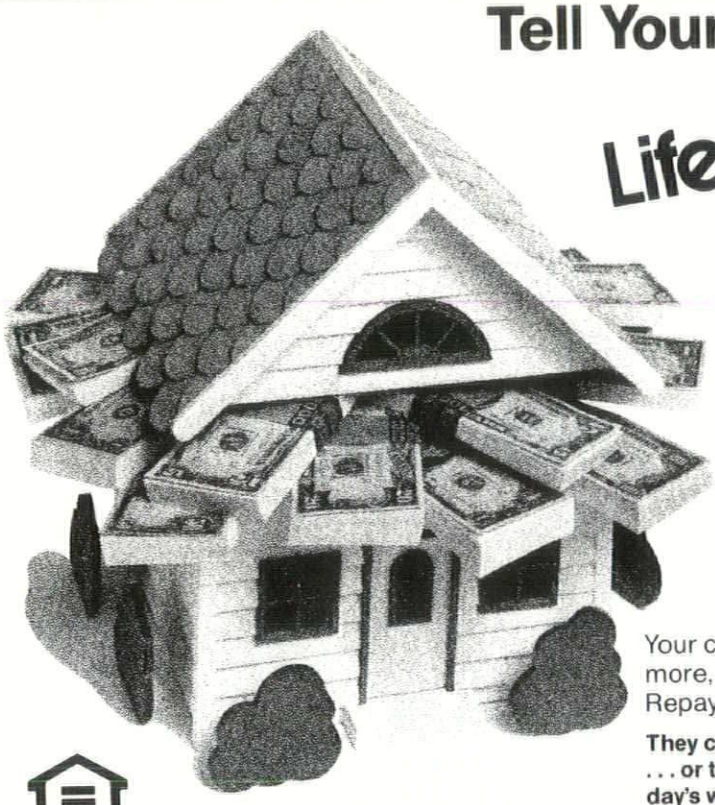

They're On The House – Their House. Up to $12,000.

All the applicant needs to apply for a Lifestyle Loan is to be a home or apartment owner.

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They can call Tadaki at 548-5000 or call any branch of Liberty Bank . . . or tear out this ad and give it to them. Just tell them it's all in a day's work.

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Last First Middle Initial

Address .....
Street

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Telephone Number .....

Friends, Family Members, Employees .....

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Signature .....

Enclose check(s) or money order(s)

Mail to:
Hawaiian Air Travel Club
P. O. Box 30008 / Honolulu, Hawaii 96820

Building from the Recession

Continued from Page 22

capital in the country, in more labor-intensive sectors?

Supporting this argument is the fact that it takes about $106,000 in capital investment to create one new job in the petroleum or public utilities sector. How many gain employment, for instance, if a homemaker drives a 12 miles-per-gallon car to the supermarket instead of a 24-miles-per-gallon car?

Who benefits if a family pays $800 per winter to heat a poorly insulated house, while it would cost them only $400 if it were well insulated? The obvious answer is that many people would benefit if the money spent on energy wastage were diverted to other sectors.

This helps to explain why a country like Sweden has a higher per capita income than we, while using only 60 per cent as much energy per capita, despite their abominably cold climate.

The bottom line, then, is that just as increased energy use in many cases decreases the labor force, both through automation and waste of energy and money, so can energy conservation increase the labor force through productive use of energy and conserved dollars.

This is not to say that we should return to the horse and wooden plow. It is to say we should squeeze maximum economic productivity out of every drop of oil.

What conventional economists are overlooking, basically, is that when we are paying OPEC $1 million every 15 minutes, and are hence capital-short, it is not more energy that is a yeast for the economic pie—it is energy conservation that can create employment and stimulate the economy.

Restoring Jobs and Buildings

In coming face to face with the reality of soaring energy prices, architects have an opportunity to rejuvenate their own profession, and stimulate the related occupations as well: they could get the construction industry back on its feet, and reduce the number of oil dollars flowing overseas as well.

Again, the answer lies largely in restoring, recycling, and renovating buildings (and residences).

Restoration has many economic advantages over the razing/raising pattern that dominated the past decade: the amount of energy used is far less; the number of workers needed is more, and the time elapsed from concept to turn-key is far shorter.

Consider also the positive sociological spinoffs: study after study has shown reluctance of people to move out of old neighborhoods into "better" new housing. Honolulu's attempt at "urban renewal" says all there is to say on that topic.

People remaining in familiar neighborhoods retain their sense of security, heritage, tradition, and belonging. Restored older buildings are generally visual as well as financial assets to a neighborhood, when compared to the usually bland, standardized, utilitarian and innocuous nature of "modern" buildings.

Restoration is now entirely feasible from a political standpoint. BOCA and ICBO have adapted to their model codes that specifically focus on historic preservation. The City & County of Honolulu, and the Neighbor Island counties have been quite enlightened in this regard.

Also encouraging to the architect is the fact that older buildings do not lend themselves to standardized plans and assembly line solutions—they require much skilled planning and attention to detail.

The fact that most older buildings have exterior bearing walls allows an almost limitless flexibility for partitioning and design. The architect can become a much larger force than is generally true in modern buildings.

Another interesting challenge is that space in most older buildings is underutilized.

Perhaps more important, the uniqueness and character of old buildings tend to emphasize those elements which make Hawaiian living distinct from living in the rest of the world.

Toward A Unique Hawaiian Architecture

All this brings up the point that pre-World War II architecture in Hawaii, from the proverbial grass shack to the New England mansion to the A&B Building, were all designed with Hawaii's unique climate and lifestyle in mind. Restoration of buildings allows modern architects to reincorporate the best of the "old-fashioned" features based on trade winds, sun patterns, and shading.

Combined with such recent technology as reflecting screens, high efficiency lamps, and careful consideration of daylighting, this allows architects to evoke an instinctive "feel" for Hawaiian living and spirit, and to reflect it in their work. This would include not only incorporation of the ethnic Hawaiian motifs and design, but New England, Victorian,

Continued on Page 28

Building from the Recession

Continued from Page 27

Colonial, and Japanese, Chinese, Filipino, Portuguese, Samoan, Korean, and South Seas features.

This in turn would allow promoters of Hawaii to point to something different from what the visitor might find in the Virgin Islands or Puerto Rico. This would also tie-in with the Hawaiian renaissance currently flourishing in music and beginning to penetrate the other arts.

In conclusion, geopolitical shifts, perhaps ironically, have made a forward-looking professional of the architect who heaves a heartfelt sigh of appreciation when passing the A&B Building on Bishop Street—while the architect who dreams of fathering a local World Trade Center is probably dreaming his way to Dodo Bird Heaven. HA

NEW MEMBER

SARAZUL I. KAZI. Associate; Ossipoff, Snyder, Rowland & Goetz, Architects. University of Hawaii. Hobbies: jogging, tennis, photography, travel, and music.

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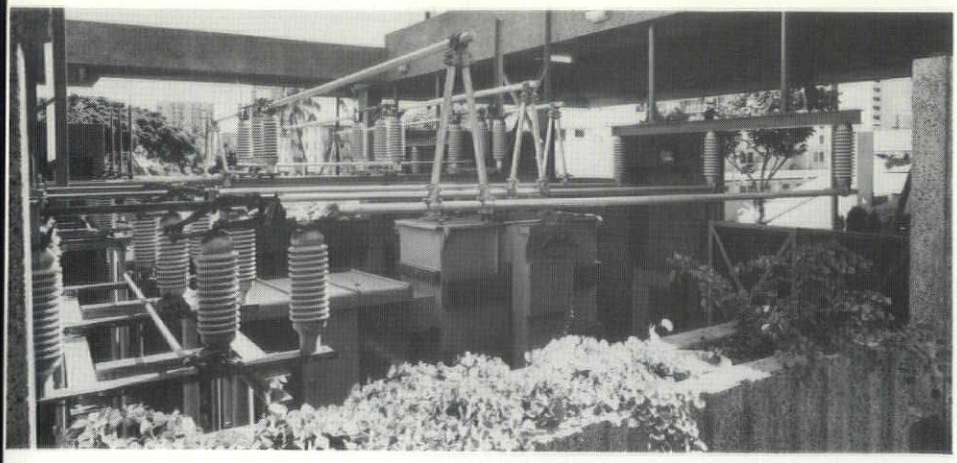


Errata

In the September issue of Hawaii Architect we not only failed to credit Ed Williams for the ASLA "Quiet Details" article but also misprinted the firm name EDAW, of which he is a principal. Ed has been instrumental in organizing the ASLA bi-monthly contribution and we hope this has not dampened his spirits. —THE EDITORS

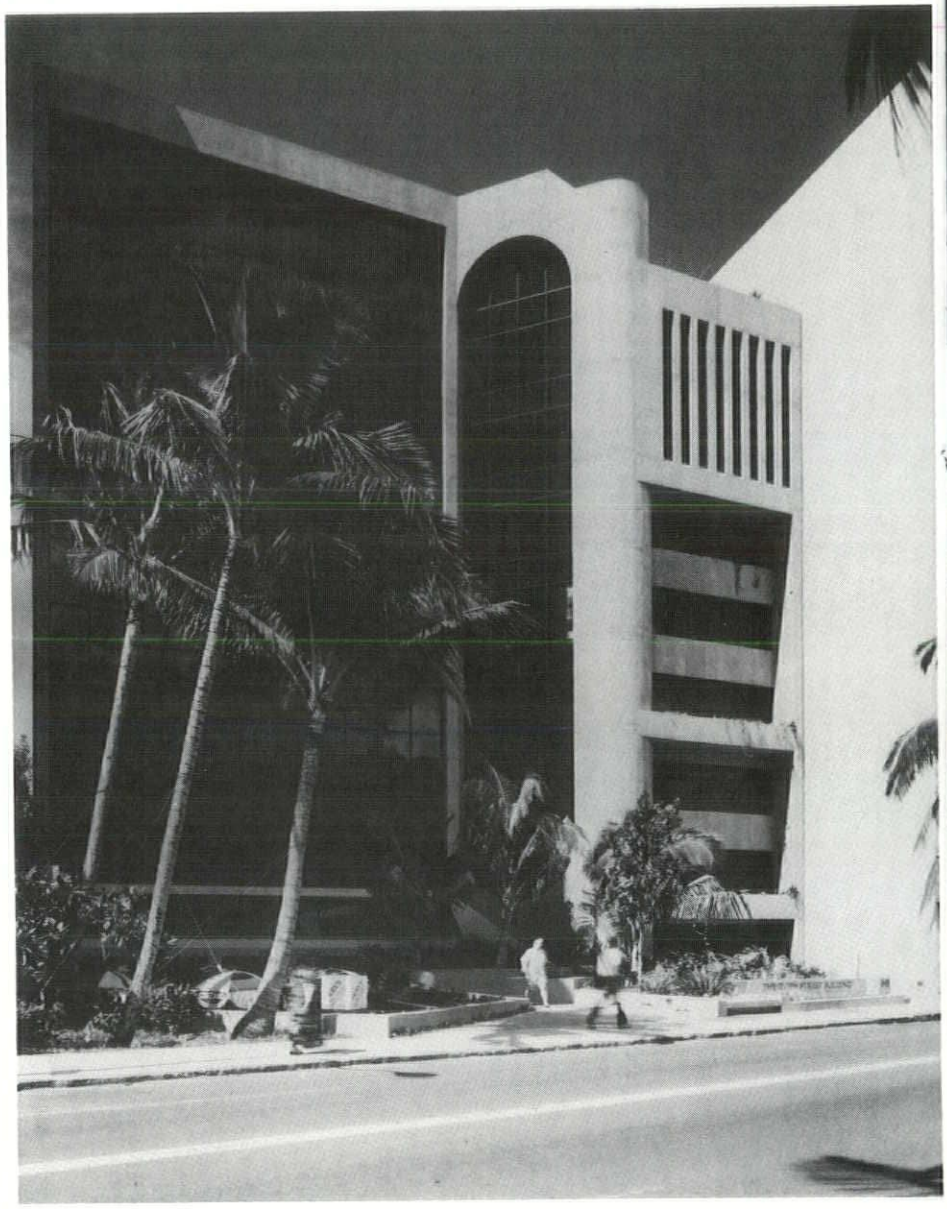
The Queen Street Building

by Media Five, Ltd.

photography by WAYNE THOM

LAURELS
HS/AIA Merit Award

Project:
The Queen Street Building
Architect:
Media Five, Ltd.
General Contractor:
Dynamic Industries Corp.
Construction Cost:
$3.4 million
Area:
66,380 Square Feet



The Queen Street Building follows the design concept that an office building can be intimate and gracious, and that interior offices work best as comfortable, inviting living areas.

Several design problems confronted Media Five, Ltd., in planning the building that quickly became one of Downtown Honolulu's most prestigious addresses.

The location is an irregular, narrow site surrounded by office buildings. Capital District design restrictions determined several of its design elements, such as a 100-foot height limitation and the use of materials and colors.

The solution exemplifies the Media Five design philosophy that architecture is integral with the interior and a continuity of design must reign throughout a project.

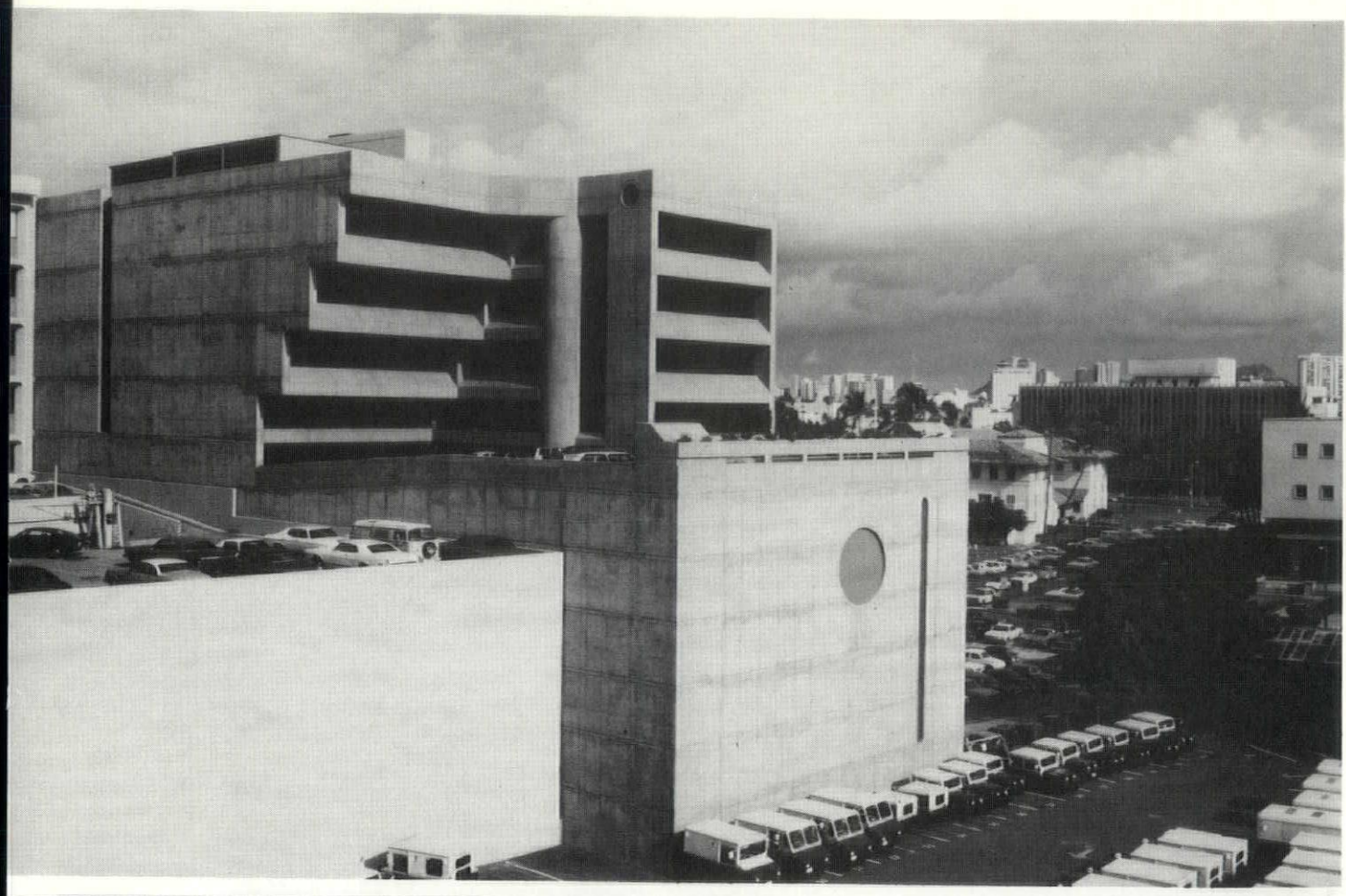
On the exterior, the nine-story building creates an impression of elegant grandeur. Its multifaceted facade has two striking glass-curtain walls. The building's third face humanizes the overall design with layers of bougainvillea in rough sandblasted concrete planter boxes alternating with rows of tinted glass panes.

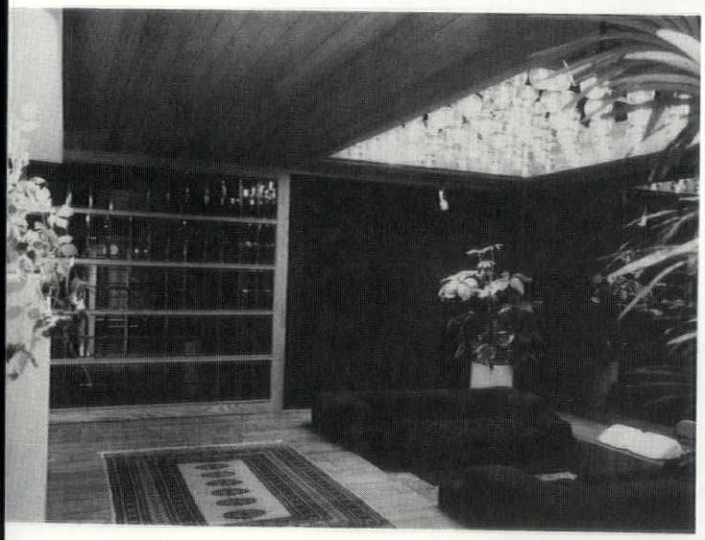
The contrast of color and texture between glass and concrete, and thoughtful landscaping on the ground level as well as in the window planters contribute to the building's overall aesthetic merit.

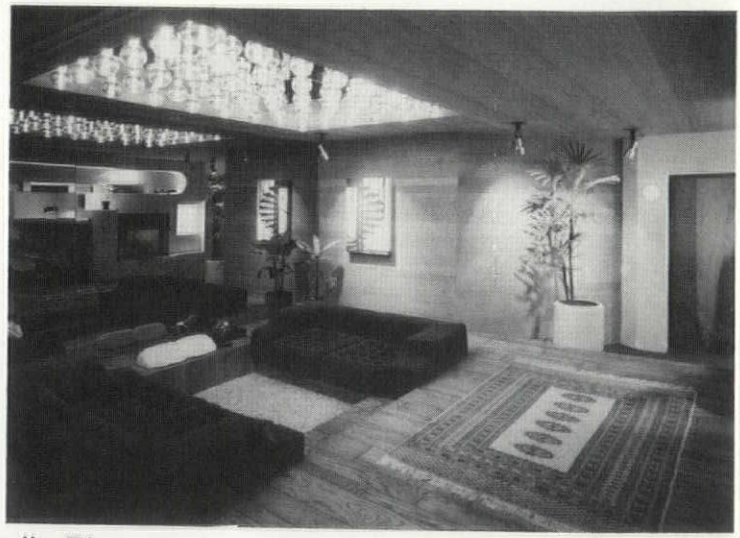
The unusual zigzag configuration of the building's front serves several purposes. As a visual accent, it gives the building prominence in its surroundings. From a practical standpoint, it maximizes available space and allows more lineal feet of window area which is desirable for interior office space.

Media Five designed its own office occupying the entire second floor. The elevators open directly into the office corridor, immediately introducing the integrated design idea.

The office design carries through the building's theme of intimacy. Warm colors, soft textures in rugs and furniture, space lighting, and a generous use of wood create a relaxing atmosphere unusual in an office. The overall result is an informal







and inviting space.

The interior is well organized with clearly defined work areas which accommodate all of Media Five's resources and needs in a single place.

The Queen Street Building is an ingenious design for a location with many restrictions, and the Media Five offices make the most of their space without sacrificing comfort or style.

Working with Media Five were:

STRUCTURAL ENGINEER:
Dimitrios Bratakos Associates

MECHANICAL ENGINEER:
Lange, Thom & Motonoga, Inc.

ELECTRICAL ENGINEER:
Bennett & Drane Electrical Engineers, Ltd.

LANDSCAPE ARCHITECT:
Tongg Associates, Inc.

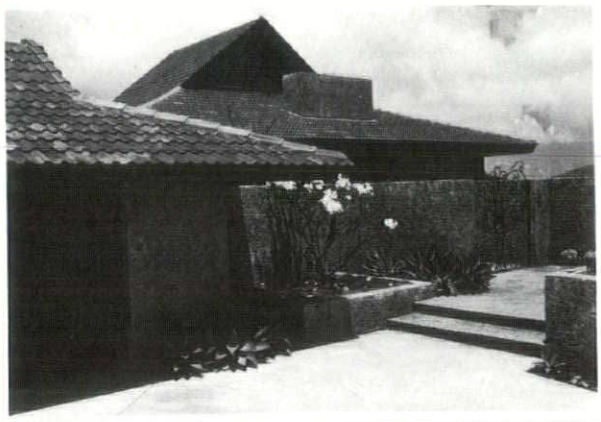
CIVIL ENGINEER:
Sam O. Hirota, Inc.

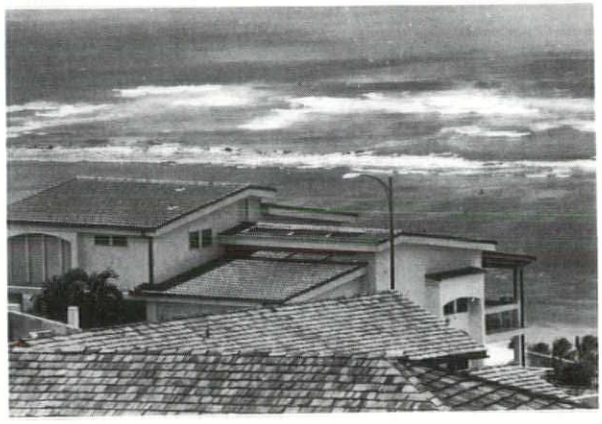
SOILS & FOUNDATION ENGINEER:
Ernest K. Hirata & Associates

SPECIFICATIONS AND CONSTRUCTION COST CONSULTANT:
Norman L. Mundy & Associates

GENERAL CONTRACTOR:
Dynamic Industries Corp.

CONSTRUCTION CONSULTANT:
DMA/Hawaii, Ltd.





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Australians Invite Architects to Building Materials Show

The Australian Trade Commission will host the first in a series of specialized trade exhibits aimed at targeting specific product groups for export into the Hawaii market beginning in October.

The Building Materials and Hardware Display will open at the Hilton Hawaiian Village Coral Ballroom on Tuesday, October 25, and run through Thursday, October 27. Fifteen manufacturers representing products both for new construction and remodeling work will participate in the three-day trade show, according to F. D. Quinane, senior trade commissioner for the Australian Trade Commission.

Among the products to be shown at the display are bathroom fittings, plumbing products, wood paneling, brick tiles, electrical accessories, solar water heating systems, flooring, decorated ceramic tiles, aluminum windows and doors.

Australian architects, construction firms, and investors are constantly thinking along new lines to meet changing world conditions. In addition, manufacturers "down under" are providing new products to help designers with their ideas.

Australia always has been a leader in the development of solar energy technology. Some manufacturers guarantee 95 per cent saving on fuel bills in climates with abundant sunshine and 65 per cent saving in cloudier areas.

Australian research into solar heating has led to the development of two new solar hot water units by one company. The systems are already gaining popularity in a number of countries. Both models have an immersion-element electric booster for times when there is low solar radiation.

They're said to be capable of providing most of the hot water needed by an average family.

Insulation is closely allied to heat preservation and cooling.

One Australian firm makes a dual recorder for monitoring outputs from solar panels, wind generators, and other energy sources. The company also provides site analysis data before the final installation of such items.

Another company makes a product which, when applied to windows, reflects the sunlight and reduces inside temperature as well as filters out ultraviolet and infrared light. This decreases cooling costs, increases comfort, and prevents fading of interior furnishings.

Vacuum metalized film as insulation lining for roofs and an additional lining cover for insulating wools is supplied by the same firm.

The metalized products also can be laminated to any desired backing and are available in bright colors as well as in gold, bronze, or copper surfaces.

This material also can be embossed, overprinted, or vacuum-formed to provide eye-catching effects for homes and offices.

A manufacturer of products used in the preservation of buildings supplies everything from damp courses and flashing and capping materials to mortar and concrete admixtures and waterproof coatings.

New designs continue to be a prominent feature of air conditioning, heating, cooling, and refrigeration as well as ventila-

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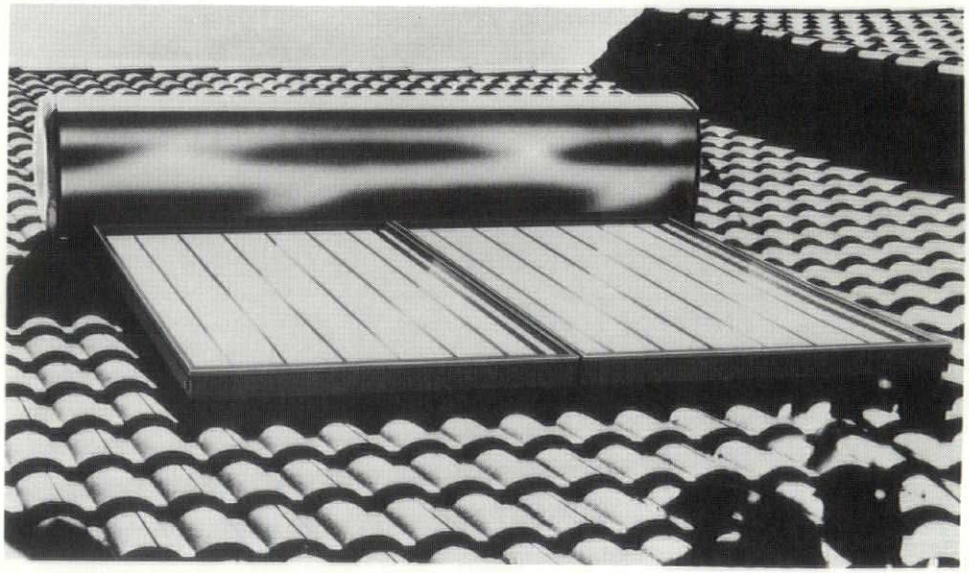

The Solahart 300 Le Deluxe Solar Hot Water System made by Solahart Pty., Ltd.

Continued from page 33

tion and exhaust systems manufactured in Australia.

Some of the world's best designed builder's hardware and fittings are made in Australia, which has the resources for manufacture of a vast range of commodities sought after today in all types of construction.

One manufacturer of fashionable door hardware exports thousands of dollars worth of goods each year. It supplies a wide range of door hardware in crystal, porcelain, wood, stoneware, and pottery.

This company also makes automatic doors which operate by pressure on a mat or touch strip, by microwave, or by light-cell beam.

A range of door closers, floor springs, panic bolts and latches, automatic door operating equipment, and flexible doors that allow push-through entry and exit are marketed by another firm, and several firms make a wide range of residential, commercial, and industrial rolldoors.

Among Australian companies, a high standard has been reached in the manufacture of bathroom fittings and related items, as may be seen firsthand during the upcoming trade show.

Colorful bathroom fittings, including shelves, mirrors, toilet roll holders, soap holders, towel bars, toothbrush and tumbler holders, shower shelves, and bathroom cabinets—all are made "down under."

Australia has some of the world's most attractively figured and colored timbers, and they're being put to practical uses. Timbers are used not only for construction frames, floors, and exteriors but also for interior construction, fittings, and decorations.

Among the most popular timbers are clear or knotted radiata pine, black bean, walnut, maple, silver ash, red cedar, red silkwood, brown quandong, silver

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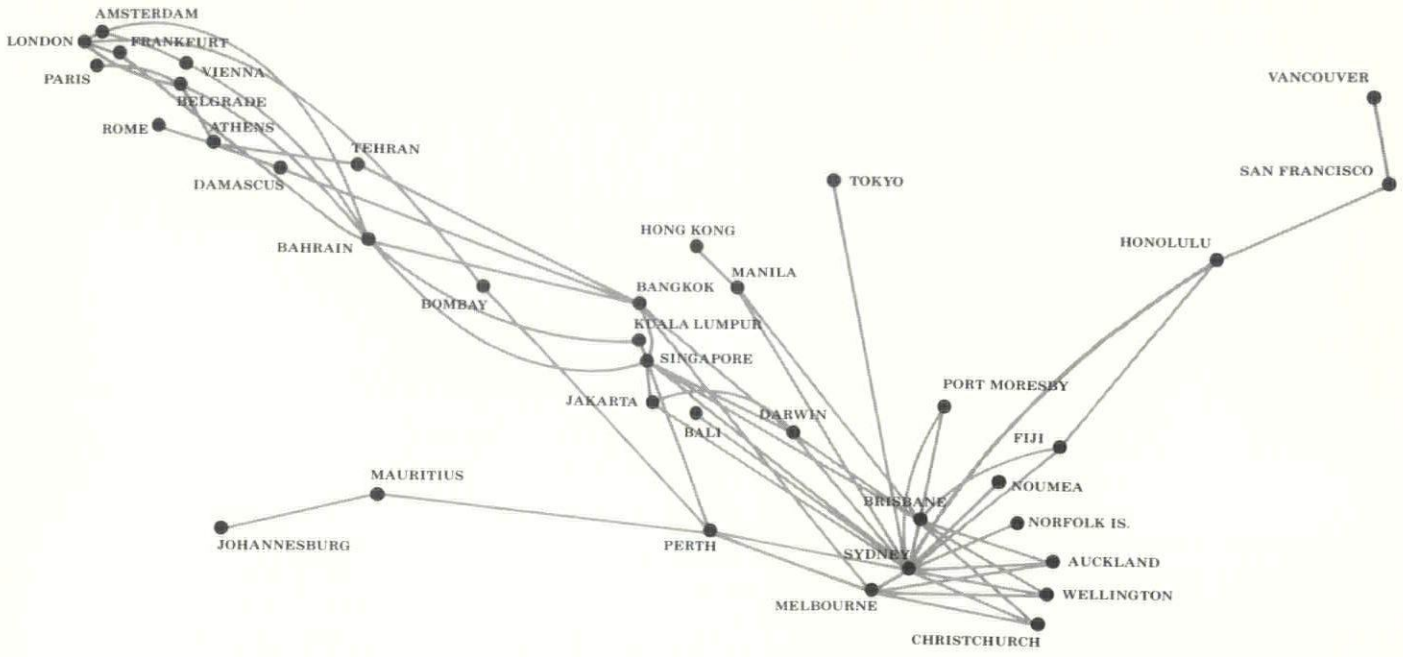


"That's Qantas all over."

See your Transportation Manager or Travel Agent.

QANTAS The Australian Airline.

Continued from page 34

quandong, tulip oak, Victorian and Tasmanian oak, blackwood, and myrtle.

Sliced veneers made from these timbers have been supplied by one company for more than 50 years.

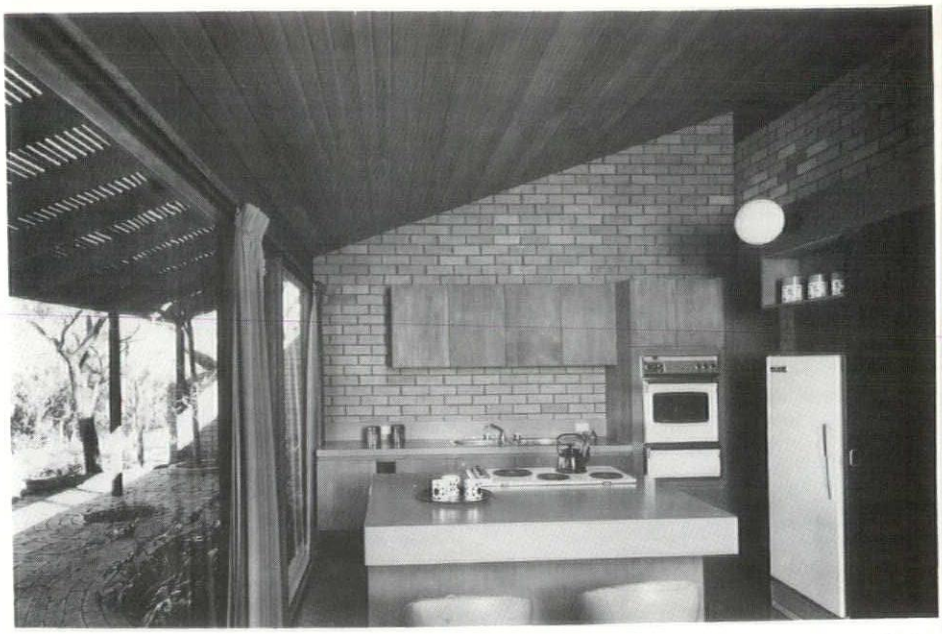
Another Australian concern is using a thin, smooth, high-density particle board in making furniture and cabinets.

The manufacturer of this particle board also manufactures Glamapyne—a fine-surfaced particle board laminated on both sides with decorative timber-patterned papers surfaced with durable plastic melamine.

These boards are used extensively for furnishings and partitions. The low-sheen surface is resistant to stains, scratches, and heat, and wipes clean easily.

Plastics manufacture is a major industry in Australia, and manufacturers offer many products.

Bathroom accessories and fittings in high quality plastics are a specialty of many Australian firms.

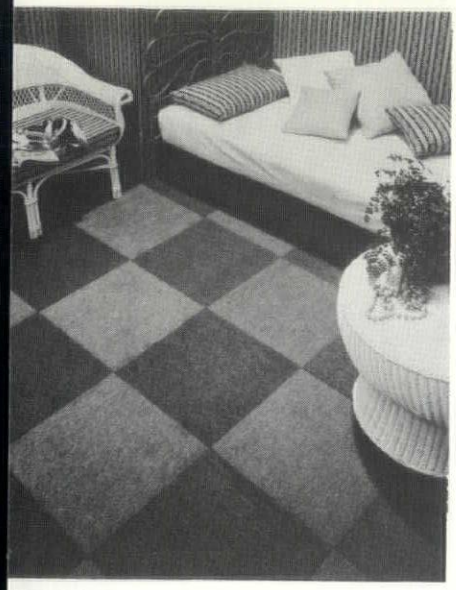


Clean lines and natural materials have been utilized in this sparkling up-to-date kitchen in an Australian home.

Plastic pipes and fittings have virtually replaced cast iron and galvanized iron systems for plumbing.

A new combination eaves-and-gutter product made from plastic is available from one manufacturer. Dome-shaped skylights in shapes and sizes to fit any standard roofing profile are made by a leading manufacturer of acrylic products.

The same firm markets an acrylic solar screen mesh de-



Rotatable carpet tiles for commercial use. They are available in a variety of textures and colors, do not need underfelt and are not glued to a floor. When initially laid, a diluted paste ensures a snug seat and they will not move unless intentionally lifted for interchanging.

signed to prevent glare and to reduce solar energy transmission by as much as 80 per cent.

Natural stone is being used in Australia and elsewhere to provide outstanding architectural effects.

One Australian firm can supply blocks up to nine metric tons of fine-grained, dark grey granite called Grandee.

Production of quarry tiles for floor areas that call for exceptional durability combined with architectural style are the specialty of another company.

Ceramic tile is the specialty of an Australian concern which has been decorating local and imported tiles for 25 years.

The company uses special production techniques to insure that the design in hand-painted and silkscreen tiles seeps into the clay, thus preventing the design from fading or wearing away.

One manufacturer has come up with a clear, colorless treatment for brick or concrete surfaces to prevent damage from painted slogans, grafitti, and similar vandalism. The treatment can be applied by brush, roller, or spray and lasts about five years.

A pebble flooring compound made by another Australian concern is being used increasingly by architects as a nonslip surrounding surface for swimming pools.

It consists of small, natural pebbles mixed with a clear resin. The compound is said to be fadeproof and weatherproof.

The Australian trade exhibit is designed to familiarize local builders, developers, architects, and interior designers with Australian manufactured products. The Australian built products provide an alternative supply source for Hawaii's builders as well as offering some of the most modern and well-designed building products available, says Trade Commissioner Quinane.

The display will be open from 1 p.m. to 6 p.m. Tuesday through Thursday, October 25-27.

For more information on the show contact Tracy Corris, marketing officer, Australian Consulate, at 524-5050.

AIA Energy Task Force

Continued from Page 7

Chapter 53

ENERGY CONSERVATION

GENERAL

Section 5301.

A. Scope:

The provisions of this Chapter regulate the design and construction of the exterior envelopes and selection of heating, ventilating and air-conditioning, service water heating, electrical distribution and illuminating systems and equipment required for the purpose of effective conservation of energy within a building or structure governed by this Code. Compliance with applicable provisions of ASHRAE Standard 90-75 shall be deemed to meet the requirements of this Chapter.

EXCEPTIONS:

1—Buildings and structures, or portions thereof, which are neither heated nor cooled.

2—Buildings and structures, or portions thereof, whose peak design rate of energy usage is less than one watt per square foot or 3.4 Btuh per square foot of floor area for all purposes.

3—Buildings and structures with air conditioning systems less than 51,000 Btuh capacity.

4—For special applications such as hospitals, laboratories, thermally sensitive equipment, computer rooms, and manufacturing and industrial processes, the design concepts and parameters shall conform to the requirements of the application at minimum energy levels.

B. Plans and Specifications:

Plans, specifications and necessary computations shall be submitted to indicate conformance with this Chapter. Plans and specifications for work to comply with the provisions of this Chapter shall be prepared, designed or approved by an engineer licensed to practice in the State of Hawaii and qualified in the branch(es) of engineering for the work covered in this Chapter.

C. Information on Plans and Specifications:

The plans and specifications shall show in sufficient detail all pertinent data and features of the building and the equipment and systems are herein governed including but not limited to: exterior envelope component materials, U values of the respective elements including insulation, R values of insulating materials, size and type of apparatus and equipment, equipment and system controls and other pertinent data to indicate conformance with the requirements of this Chapter.

D. Alternative Systems:

Alternative building systems and equipment design may be approved by the building official when it can be demonstrated that the proposed energy consumption will not exceed that of a similar building with similar forms of energy requirements designed in accordance with the provisions of this Chapter.

When such alternative systems utilize solar, geothermal, wind or other non depletable energy sources for all or part of its energy sources, such nondepletable energy supplied to the buildings may be excluded from the total energy charge able to the proposed alternative design.

Proposed alternative designs submitted as requests for exception to the standard design criteria must be accompanied by an energy analysis prepared in accordance with established principles of environmental technologies (such as ASHRAE Standard 90).

Upcoming legislation will include solar rights as a parameter for site development and mandatory lighting requirements.

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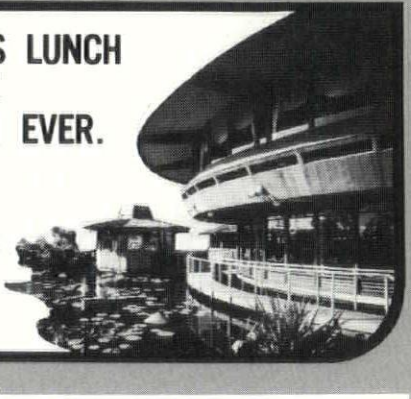

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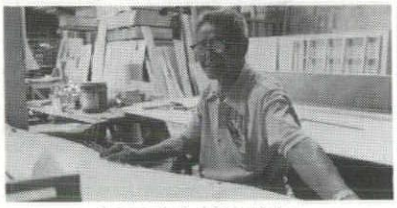
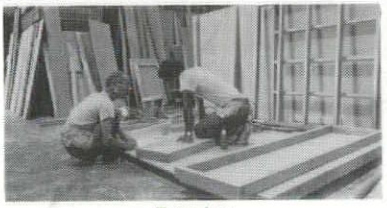
FREE VALIDATED PARKING *Aloha*

IMUA translates your ideas into a working language through this modern plant and manufacturing facility.

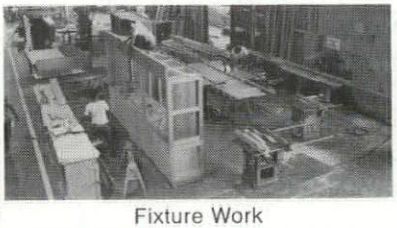


Layout & Materials

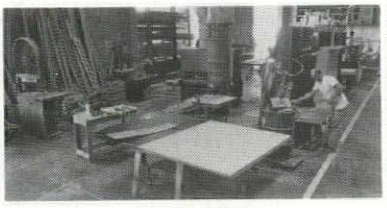


Framing

Case Work



Fixture Work



Laminating

Finishing

The smooth flow of all work assures each job its promised priority.

Jobs are analyzed, estimated, and resulting bids proposed. All data is co-ordinated as to timing and deadlines with the architect. The job flow and timetable for all supplies is established.

Everything necessary for the job is brought together in the Layout and Materials division. Orders previously placed are assembled. Unfilled or back orders are expedited. The job then goes into production on schedule.

Doors, windows, and other customized details are prepared for later finishing. In this special area IMUA'S expert skills in carpentry and cabinetry are extensively utilized. Challenging and innovative architectural specifications are met.

In the plant's 25,000 square feet of production facilities IMUA maintains a large inventory of lumber and materials, based on anticipated demands and normal job requirements. This is especially important in Hawaii, where the paperwork of back ordering can cause costly and unnecessary delays.

Finishing is done mostly in the shop, but, as necessary, also on the site. Plant work must pass close tolerance inspection before reaching the site, where it is put in place, and hand finished, in many cases, to merge with all other job site work.

In modern store, restaurant, and office construction many jobs require some form of wood or plastic lamination. This work is performed in a special department, with experienced hands, and with the most modern and complete equipment in Hawaii.

Send for the new illustrated folder on operations, personnel, some recent jobs, and staff capabilities.

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