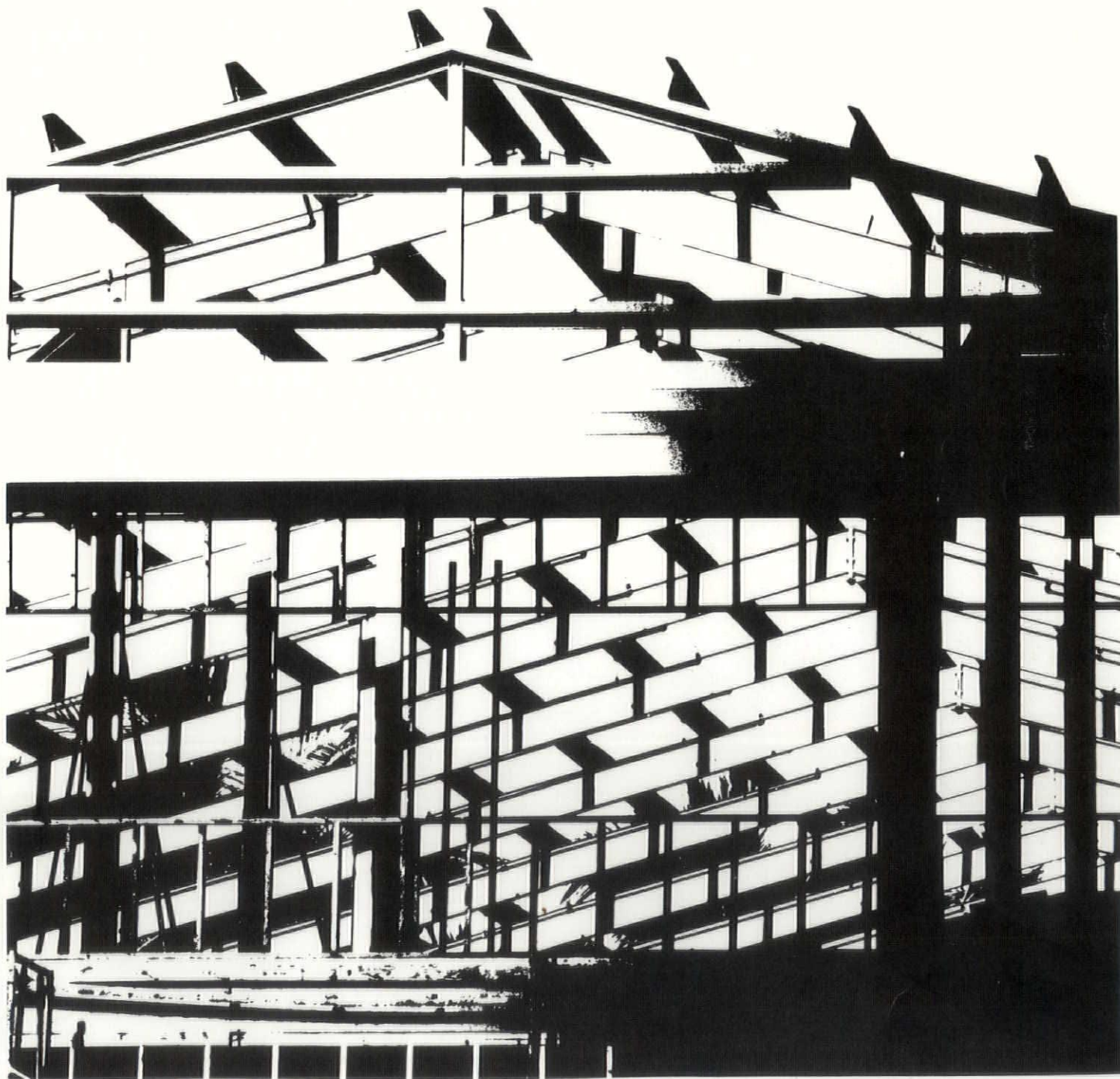


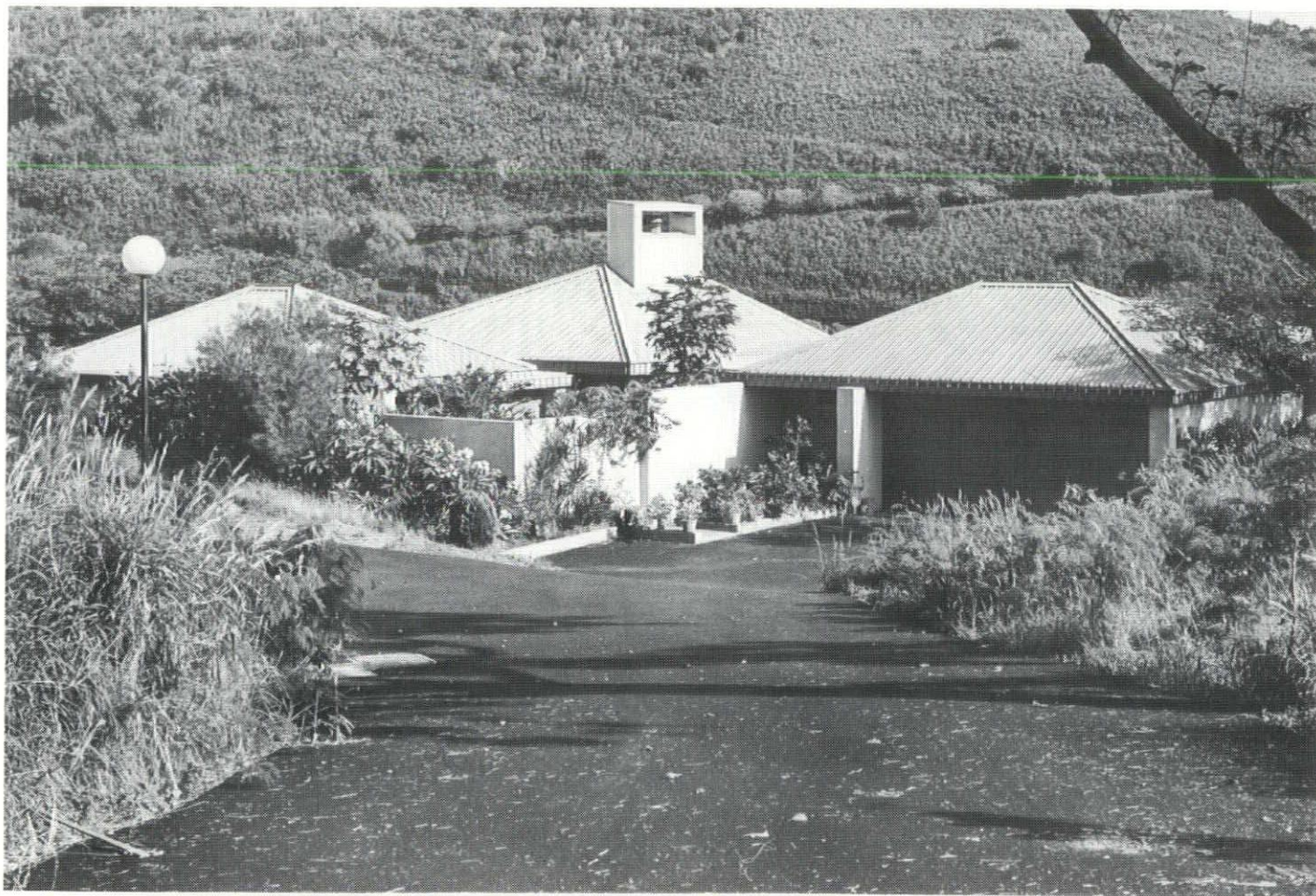
Structural Materials



JORGENSEN METAL ROOFING

- Custom rolled in Hawaii for immediate delivery
- Available in 8 colors and 4 profiles
- Installed easily without specialty trades
- Proven durability in Hawaii
- Competitively priced

For more information and specifications call 836-1611



EARLE M. JORGENSEN CO.

STEEL • CULVERT • FASTENERS • GALVANIZING • ROLL FORMING
2655 Waiwai Loop • Honolulu, Hawaii 96820 • (808) 836-1611

HAWAII ARCHITECT

Volume 10, Number 1

January, 1981

Hawaii Architect is a monthly journal of the Hawaii Society/American Institute of Architects. Subscriptions are \$10 per year. Opinions expressed are those of the editors and writers and do not necessarily reflect those of either the Hawaii Society or the AIA.

All correspondence should be directed to:

Hawaii Society/AIA
233 Merchant Street, Suite 200
Honolulu, Hawaii 96813

Beverly McKeague
Executive Secretary
Phone (808) 538-7276

HS/AIA Officers:

President

Donald D. Chapman, AIA

Vice President/President-Elect

Francis Oda, AIA

Secretary

Gordon Ogata, AIA

Treasurer

Ted Garduque, AIA

Directors

Tom Culbertson, AIA
Rosalina Burean, AIA
Charles A. Ehrhorn, AIA
Dwight C. Lowrey, AIA

Associate Director

Ann Thompson

Hawaii Architect Personnel

Co-Editors

Shannon McMonagle
Glenn E. Mason, AIA

Staff

Rob Hale, AIA
Michael J. Leineweber, AIA
Curtis Miyamura
Mary Alice Sinton
Mike Chu

Art Director

Jan Olin Nakamura

Published monthly by:

Crossroads Press, Inc.

863 Halekauwila Street
P.O. Box 833
Honolulu, Hawaii 96808
Phone (808) 521-0021

Stephen S. Lent, Publisher

POSTMASTER: Send address changes to
the Hawaii Architect, 233 Merchant Street,
Suite 200, Honolulu, Hawaii 96813

HAWAII ARCHITECT (USPS063170)
controlled circulation
postage paid at Honolulu, Hawaii

Contents:

Headlines:

Your Recycled President for 1981
By Donald D. Chapman, AIA

4

Index:

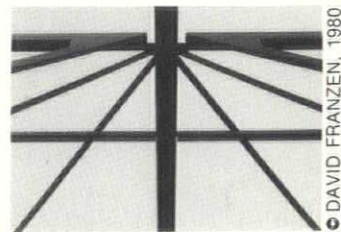
Innovations in Concrete Forming
Methods
By Dick Ackerson
Charles Pankow Associates

6

Index:

A Fresh Look at Structural Steel
By Richard M. Libbey
Structural Engineer
Richard M. Libbey, Inc.

10



DAVID FRANZEN, 1980

Laurels:

HS/AIA Award Program
House of Music
Music and Record Shop
By Noe & Noe Architects/Bruce Hopper

14

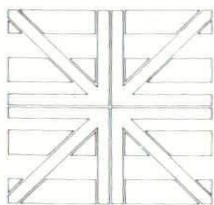
Index:

Precast Prestressed Concrete
Can Save Time
By Richard L. Hegle
Chief Product Engineer
Ameron HC&D

20

Cover:

Ward Centre
Photo by Darryl Soon

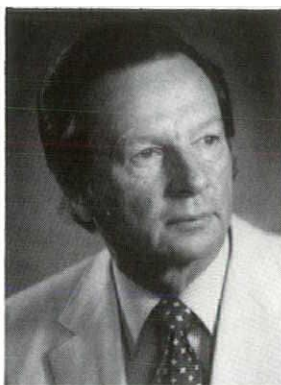


Headlines:

Your Recycled President for 1981

by DONALD D. CHAPMAN, AIA
President, Hawaii Society/AIA

In these energy conscious days of recycled products, I trust I shall serve equally well as your recycled president. I am certainly looking forward to working with the very talented people you selected to serve as officers, directors, committee members, and also those of you who will be tapped as needed for your expertise in specific areas. Let's hope at the end of year 1981 you will be able to reflect that recycling an old can wasn't such a bad idea.



Donald Chapman, AIA

Speaking for the Hawaii Society, but also very selfishly for myself, I'd like to express heartfelt thanks for Jack Lipman's leadership in negotiating a favorable settlement on our burned out office and for securing new space in the Stanford Court building. Those of us on your executive committee know the countless tedious, frustrating hours he personally put in so that 1981's excom would not be burdened with the search for a home. Jack— *mahalo!*

With the setting up of committees and programs for the coming year, a legislative session about to begin, and the continued escalation of preparations for the 1982 National AIA Convention in Hawaii, we will all be busy. Some thoughts on the coming year.

First, the monthly programs at the Hawaiian Regent will be continued. It's a difficult task continually to

achieve programs of interest be they orientated educationally, socially, or as a forum for controversy within our profession. Last year's multiple chairmen did a bang-up job that set our benchmark. In addition to the programs, I personally believe a great deal is accomplished just being together on a regular basis.

Those of you who attended the state convention at Makaha are familiar with our legislative goals for 1981. Top priority will be given to the enactment of legislation concerning lien laws, frivolous suits, reducing the statute of limitations, and limitation of liability. As stated earlier, I intend to combine the wisdom of years with the energy of youth within this Society so please *kokua* when asked. Remember he who helps also helps himself. If other vital issues spring up I will address them, however, as a general rule will not weaken our efforts on the above by shotgunning a number of lesser issues.

The 1980 Wage Survey by Case & Co. is complete and will be compared with the California and DAGS rates by a special task force. Should the results warrant, the task force will be directed to negotiate a new schedule with DAGS.

As a closing thought I'd like to drop the state convention this year and concentrate the Society's efforts on preparations for the 1982 National Convention and wind up the year with a gala party. It should be a dressy affair that installs the new officers in style, honors and exhibits the Honor Awards, and revives the Pan Pacific Architectural Citation.

I think it's time. **HA**



GAF HAWAII INC.

2250 Pahounui Drive
Honolulu, Hawaii 96819
(808) 845-2973



DISTRIBUTION CENTER FOR:

GAFSTAR®
Sheet Vinyl

GAFSTAR®
Floor Tile

GAFSTAR®
Wall Tile

ROPPE
Rubber Cove Base
& Mouldings

HENRY®
Adhesives
Sealers
Coatings

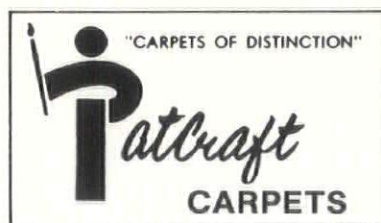
BUILDING MATERIALS

GAF® Roofing, Siding and Insulation Products

Timberline® shingles and other roofing shingles; roll roofing; roofing felts; asphalt protective coatings and cements; mineral fiber board, roof shingles, sidings; canal bulkhead, corrugated and flat sheets; building and roof insulations; Stratalite® thatch-look siding; Vanguard® vinyl siding and decorative shutters.

hardwood floors

Bruce • Permagrain • Harris

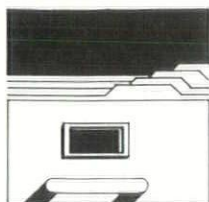


FLEXO™

DIVISION OF

TEXTILE RUBBER COMPANY, INC.

Commercial rubber and vinyl flooring products. Radial rubber, rubber, sheet vinyl, rubber and vinyl floor tile and rubber cove base.



Index

Innovations in Concrete Forming Methods

by DICK ACKERSON,
Charles Pankow Associates

With construction costs increasing even faster than the inflation rate and cost of living indexes, it has become imperative that the concrete industry continue to develop new, more cost-effective forming systems.

There have been innovative improvements to existing methods which have been used successfully in the last few years, and have helped to keep project costs in line. Some of the forming systems used in typical high-rise projects include flying forms, tunnel forms, lift slabs, slip forms, and mechanical jump forms.

Whenever possible, a project should be designed to accommodate a contractor's particular area of expertise, since familiarity with a certain forming method will be reflected in the final costs.

The flying form system has proven to be one of the most economical slab forming systems when each floor is typical in design. A flying form is usually a large prefabricated table top which makes up the formwork prior to pouring a typical elevated floor slab. The forms are designed to carry the dead load of the concrete deck plus the construction live load, and are sized within the allowable crane capacity. There are flying form systems available for purchase or rent and are usually designed with steel or aluminum components.

Although these systems usually perform well, they are generally more costly than designing and building your own system with conventional scaffold towers, lumber, and plywood. Most contractors are now using a flying form system although each has his own preference for type of system and utilizes various techniques in the flying operations.

Tunnel forming is another system that has been used successfully on the Mainland and is picking

up popularity in the Islands. It involves the pouring of walls and slabs at the same time by use of a combined wall and slab form known as a tunnel form. Because of the collapsible corners required, the system is usually fabricated in steel with heavy hardware for durability. Consequently, the initial cost of the material is extremely high.

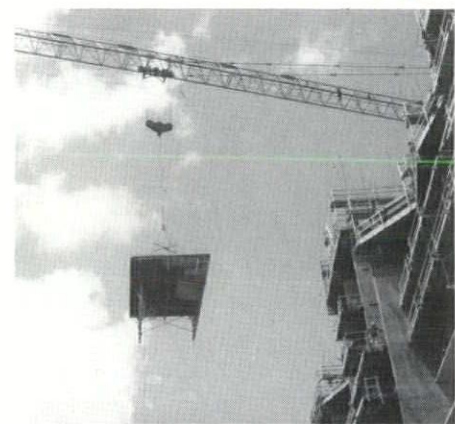
The system also lacks flexibility for various architectural designs and is best suited for rectangular shaped, standard width bays. This system is functional for simply designed structures where re-use is anticipated.

Another slab system which may find its place in Hawaii is the lift slab. This system entails the stack casting of slabs on grade and jacking each slab mechanically into its respective elevated positions. The slabs are poured on the ground, eliminating the need for formwork and safety railings, providing a safer, more controlled environment, and decreasing manpower and equipment requirements.

The slabs can also be stacked with drywall, glass, fixtures, and

other finishes on the ground, decreasing the normal hoisting requirement. The slabs are then lifted into position by use of heavy-duty hydraulic jacks bearing on the structural walls and columns. There are a number of jacking systems available for rent which can be obtained with qualified manpower for the jacking operation. This system is effective on mid-size structures generally from three to about eight stories and in areas where

Continued on Page 8



A typical flying form being raised from one level to another.



A slip form operation at Kinalau Tower.

IMUA

BUILDER SERVICES, LTD.



Architect: Lawton & Unemura; Designer: Ronald E. Rieman, Fred N. Sutter & Associates, Inc.

Solitaire by IMUA craftsmen.

Like a many-faceted diamond, this luminous ceiling is enhanced by a simple, elegant setting. This one in precisely matched panels of polished wood. An imaginative design, brought to life by the skilled hands of IMUA master craftsmen, for the Touch of Gold fine jewelry store in the Hyatt Regency Maui.

When leading designers and architects need to transform a bright idea into a reality, IMUA is the preferred general contractor. No matter how intricate the job is, they know IMUA will provide quality workmanship and the kind of professionalism that respects timetables and budgets. IMUA. A jewel of a company.

IMUA Builder Services, Ltd. General Contractors
855 Ahua Street, Honolulu, Hawaii 96819 Ph: 833-1811

Innovations in Concrete Forming Methods

Continued from Page 6

equipment and qualified labor are not available. This system may find its place on various Neighbor Island projects where available manpower is a problem.

Concrete wall/column forms are the other major forming expense in a typical high-rise structure. These elements are usually formed by means of a slipform, mechanical jump form, gang forms, or pre-engineered jump form systems.

Slipform construction is one of the most controversial systems used in the construction industry. The continuous slipping movement of the form and the unsecured nature of the concrete introduces a number of variables that are often hard to control unless performed

by experienced personnel. When performed correctly, slipforming is one of the most effective methods of achieving a fast construction cycle and controlling the project schedule.

Because of the many variables involved during the slipforming operation, the initial fabrication and assembly of the form is critical. The forms must provide rigidity and yet enough flexibility to accommodate the variables as they occur during the operation of the form. The wall form that contains the concrete is generally four feet high and is supported by a system of horizontal walers (strong backs) that interconnect and tie together all of the typical wall forms into a single unit. This unit is then raised simul-

taneously by a series of jacks, usually air or hydraulic, that are connected to the walers by yokes. The jacks and entire system are supported on steel rods embedded in the concrete walls and columns and spaced as required to support the loading. Between the wall forms are joists and plywood, creating a working deck for placement of steel and concrete and for maintaining the form. This working deck also serves as a safety platform to protect the men working in the building below.

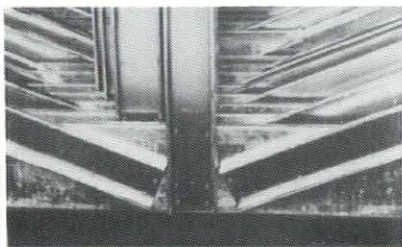
The slipping operation is more critical than most systems because of the continuous movement of the form, and it requires experienced personnel that can control the variable conditions. With a four-foot form, the slip generally runs with two feet of soft concrete and rises at the rate of about 27 inches per hour. Close monitoring of the concrete is necessary to ensure that it's delivered on schedule and contains the proper mix designs so that the proper concrete characteristics are maintained.

The form must be cleared free of the concrete at the end of each pour to prevent the form from adhering to the concrete. This is done by continuing to jack the form until its top is about 18 to 20 inches above the concrete. The following morning, the form is jacked again about two inches further to prevent any bonding of the form to the concrete.

The walls usually are poured two to three floors above the floor slabs, which requires close coordination with the structural engineer. Details of floor to wall connections and placement of vertical reinforcing must be reviewed with the engineer and properly inspected on the project.

Slipforming generally relieves the equipment requirement since the form is raised by jacks and does not require the use of a crane.

MANUFACTURED IN HAWAII



- Trusses up to 40-foot spans
- Local Technical Design Assistance

- Light-gauge steel trusses
- Load-bearing studs and joists
- From single-story residential to 4-5 story condominiums and office buildings
- Cost competitive with other framing systems
- Quick Service!

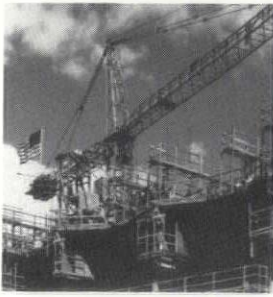
**CALL FOR FREE BROCHURE — NO OBLIGATION
845-9311**

Ask for Jim Nicoli or George White



Galvanized metal studs • Track • Trusses • Joists
Baker Way/Sand Island

845-9311



This allows the crane to be used for other requirements and helps to assure a faster cycle. Another advantage of the slipform is that it can generally be maintained and operated by two or three carpenters after it has been fabricated and assembled.

The disadvantages of a slipform system are the initial fabrication costs, lack of flexibility in changes to the walls, and the architectural treatment that can be made to the surface of the walls. The walls also come out of the forms with an uneven texture and require more finishing costs than other available systems.

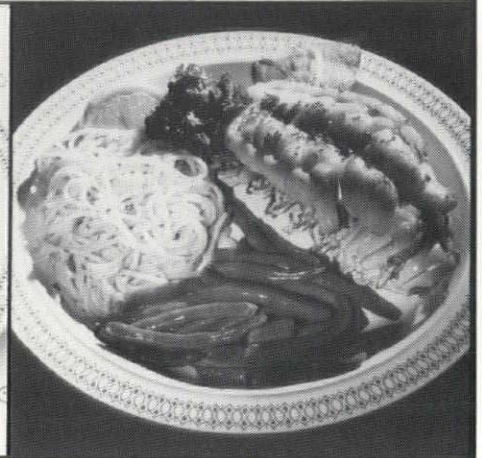
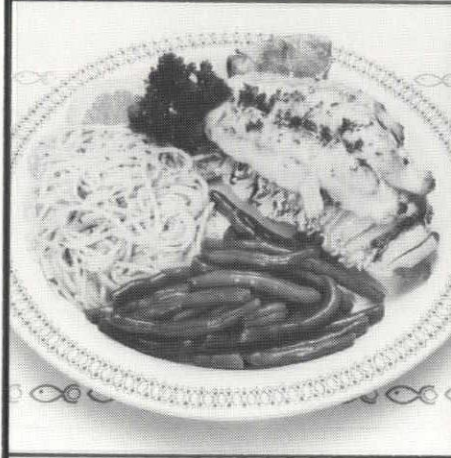
"Slipform construction is ... controversial ..."

The mechanical jump form system is one alternative to the slipform. It has the same advantage of being a self-jacking system which reduces the tower crane requirements. It is also fabricated in a full floor-to-floor height (as compared to the four-foot slipform) which enables easier placement of concrete, reinforcing, and electrical requirements. Another advantage of the jump form is that it produces a higher quality wall finish than in slipform or conventional forming systems. The jump form is also flexible to changes from floor to floor and can utilize form liners to provide other architectural treatment to the walls.

The disadvantages of the mechanical jump form is the cost. It has a high initial cost because all the moveable parts require special machining and the form generally requires an extensive amount of structural steel members. The operation of the form also requires

Continued on Page 18

Lobster for lunch. Lobster for dinner.



At Orsons, lunch is as important as dinner. That's why our quality seafood, our service, and our reasonable prices stay the same for both meals.

The same dinner you enjoyed with your family last night can be ordered at your business lunch today.

Call 521-5681 for reservations.

Sunday-Tuesday 11 a.m. to 10 p.m.
Wednesday-Saturday 11 a.m. to 11 p.m.



1050 Ala Moana Blvd. at the Ward Warehouse

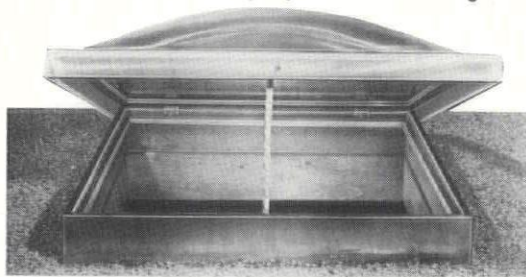


VENTARAMA

Considered the BEST by Popular Mechanics Magazine

SKYLIGHTS

THAT
OPEN!



NOW YOU CAN
SPECIFY THE MOST
ENERGY-EFFICIENT
VENTILATING
SKYLIGHT

As you know, skylights make light airy rooms and adapt almost anywhere. Besides being an additional source of **natural** light, these units provide **free** air conditioning. Therefore, these units are a dual **energy saver**, rescuing interior baths, poorly ventilated bedrooms, and dark stuffy kitchens. These units are also perfect for patios, garages, and any area where natural lighting and ventilation are desired.

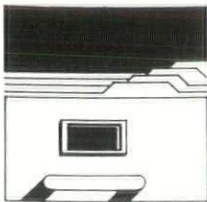
Unique and outstanding features of the VENTARAMA SKYLIGHT are: completely assembled with **DOUBLE** acrylic plexiglas domes, tamper proof fasteners, and are hinged and weather-stripped. These units are constructed with 16 oz. **COPPER** for easy installation on any flat or pitched roof. They are operated with either crank, pole, or motor which comes prewired, including wall switch.

The Double-Domed Ventilating Skylight
Available in Clear and Bronze Tones

Stocked Locally & Distributed Exclusively by

SKYLIGHTS of HAWAII

P.O. BOX 347 • 239-6277 • KANEHOE, HI



Index

A Fresh Look at Structural Steel

by RICHARD M. LIBBEY
Structural Engineer
Richard M. Libbey, Inc.

Over the last few years we have been the structural engineer on a wide range of projects utilizing structural steel. With these as a backdrop, I would like to share with you our experiences and observations relative to the usage of structural steel in Hawaii. It is generally considered that Hawaii is concrete oriented, however structural steel has a major place in our design and construction environment. Its design can be a challenge and the finished product a notable contribution to our architecture.

An analysis of structural steel construction, with total sales of 30 to 40 million annually, may be subdivided into five types of structures:

- High-rise buildings.
- Low-rise office and commercial buildings.
- Pre-engineered metal buildings.
- Special structures.
- Miscellaneous metals, such as stairs, railings, angle support brackets, and such.

Although many don't realize it, there are many structural steel buildings which have been built over the years, including: the Amfac and Hawaii buildings, the Hawaiian Telephone Building, Sheraton Waikiki Hotel, Bank of Hawaii Office Building in Waikiki, and the City Bank Building.

Structural steel low-rise office and commercial buildings include the Ward Centre, First Methodist Church Office and Classroom Building, Pearl Harbor Naval Shipyard Electrical Shop, and the Neal Blaisdell Center.

The examples of pre-engineered metal buildings are too numerous to mention. The range and adaptability of the pre-engineered metal frames, roofing, and siding systems are extremely varied and adaptable. Special structures have included power plants, industrial structures such as the HC&D



©DAVID FRANZEN, 1980

Mansand plant, and gymnasium roofs such as Punahou School gymnasium currently under construction.

Miscellaneous metals are significant ingredients of any reasonably large project, including in some instances, metal stairs, angle brackets, railings, and so forth.

With the above range of structures and the different techniques and preferences in detailing of metal structures, it becomes very difficult for an engineer to "learn his

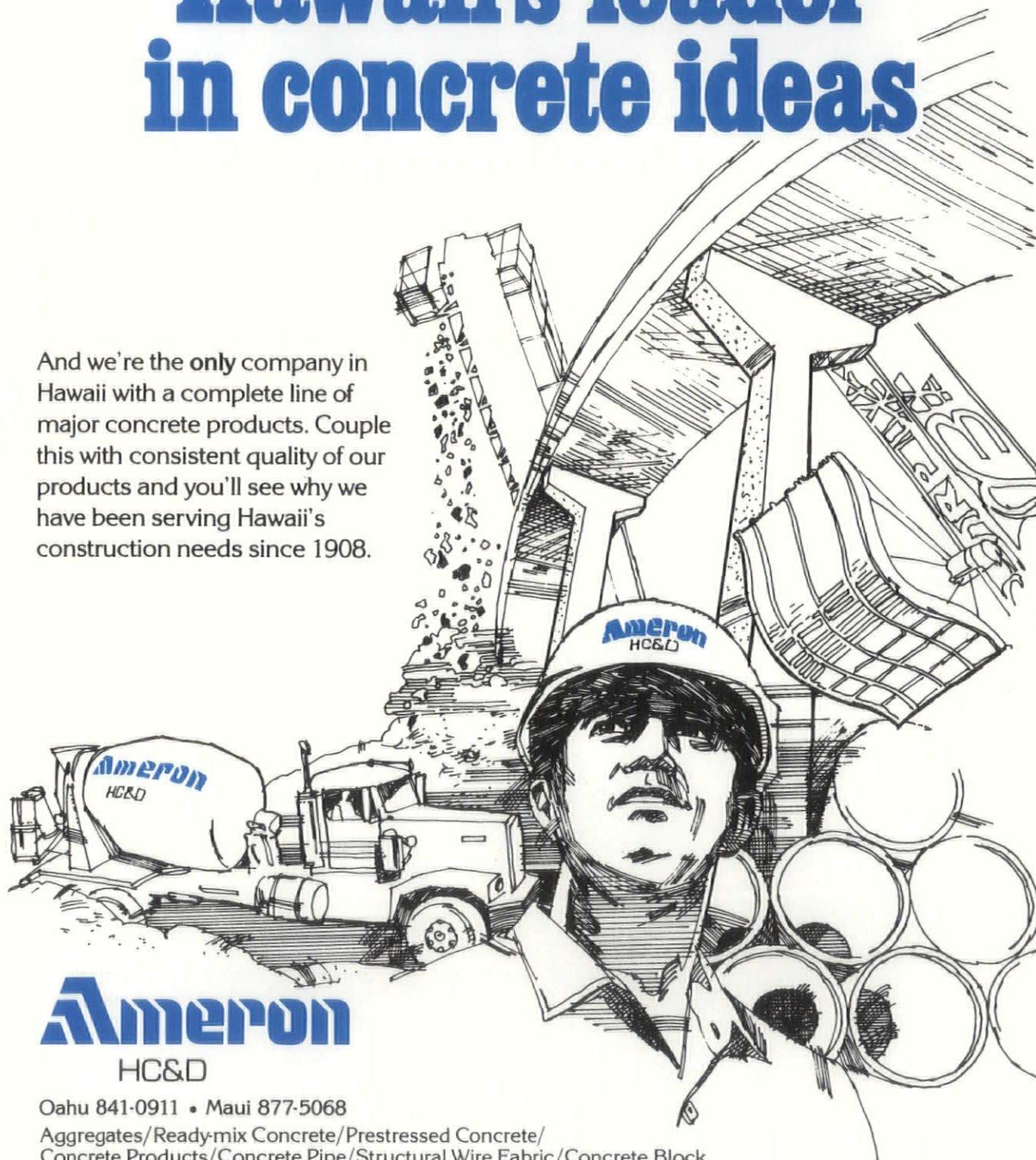
trade" except through experience and reliance upon the manufacturer's representatives, material suppliers, and steel fabricators.

In the process of the design and erection of the structures which we have completed in the last few years, we have relied heavily on this capability. The local steel industry is aggressively promoting its products, and we find its representatives very capable and anxious to

Continued on Page 12
HAWAII ARCHITECT

Ameron HC&D Hawaii's leader in concrete ideas

And we're the **only** company in Hawaii with a complete line of major concrete products. Couple this with consistent quality of our products and you'll see why we have been serving Hawaii's construction needs since 1908.



Ameron
HC&D

Oahu 841-0911 • Maui 877-5068

Aggregates/Ready-mix Concrete/Prestressed Concrete/
Concrete Products/Concrete Pipe/Structural Wire Fabric/Concrete Block

Structural Steel

Continued from Page 10

assist us in any way possible, and it takes only a phone call to obtain their assistance.

As a group, 19 years ago, they

formed an association, The Steel Fabricators and Erectors of Hawaii, to assist in the promotion and the usage of structural steel. Its mem-

bers consist of the various steel fabricators, material suppliers, and independent detailers all serving the industry here in Hawaii. Ken Sudo of Industrial Welding is this year's president. They meet monthly, and anyone interested in attending one of the meetings may contact Sudo for more information. It would be an excellent opportunity to meet a broad cross section of the structural steel industry. We have heavily relied upon a number of their members in the formulation of design and selection of materials and found them to be most knowledgeable and helpful.

With the challenge of a broad range of projects and the assistance of fabricators and suppliers, over the last few years we have become more familiar with the broad capability of the structural steel industry here in Hawaii. The following four projects will illustrate conditions under which the architectural, functional, and structural requirements resulted in the selection of structural steel:

Punahou School Gymnasium

As part of the Punahou Athletic Facility Development Program, one pavilion and two gymnasium structures are required. John Hara, architect for the project, included in the program for the gymnasiums a requirement for the installation of solar water heating panels on the roof and north clear story lighting, both as energy conservation measures.

This form, coupled with a general feeling that a gymnasium roof wants to be structural steel, led to its selection. The truss form was chosen and different configurations analyzed prior to final selection of the framing system. Mutual Welding, the steel fabricator and erector, assisted greatly in the detailing of the structures to facilitate erection and to obtain maximum economy. Here is a project wherein

The finest in Scandinavian office furniture.

LET SCAN LINE LESSEN THE STRAIN OF A WORKING DAY

Largest in stock program in Hawaii.
Visit our showroom.

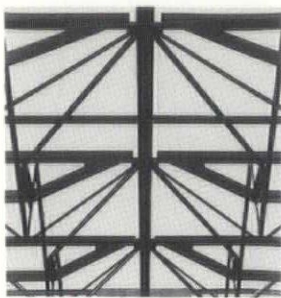


scan | line
Office Interiors

Store Hours:
Monday thru Wednesday 9:00 to 5:30PM
Friday and Saturday 9:00 to 9:00PM
Thursday 9:00 to 9:00PM
Sunday 12:00 to 5:00PM

800 S. Beretania St.
Honolulu, Hawaii 96813

537-1273



function, architecture, and structure have been combined with structural steel being the most logical solution.

The Ward Centre

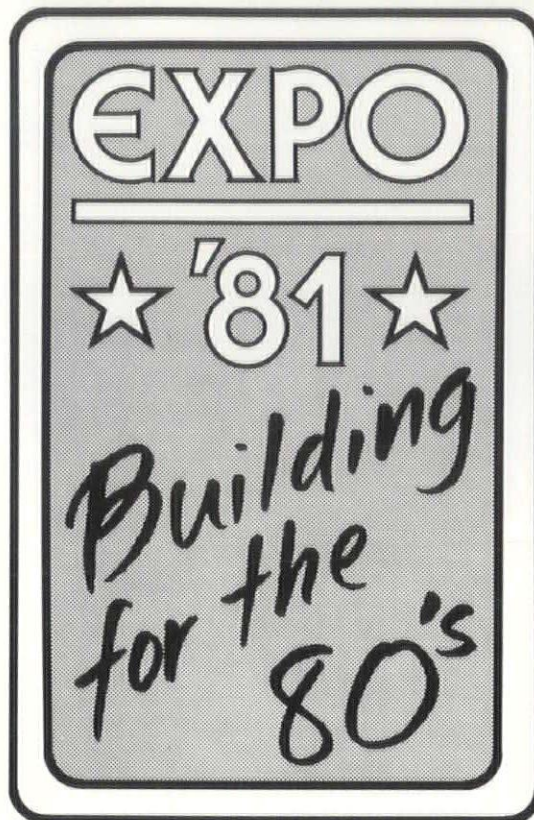
For an extension of the successful Ward Warehouse concept, the Victoria Ward Estate whose Chapman, Cobeen, Desai, Sakata, Inc., as architects. In order to obtain a somewhat similar yet differently appearing project, Duane Cobeen wanted a two-story structure with a sloping roof system wherein mezzanines could be installed in either the first or second floor spaces. It was anticipated that the structure would be left exposed and, accordingly, some interest was desired in a structural system. Wide flange structural columns, girders and beams were chosen with a composite metal deck and concrete floor system, and deep rib metal roofing supported by Zee purlins similar to those used in pre-en-

"Detailing was straightforward . . ."

gineered metal buildings.

Detailing was straightforward and an economical structure was obtained in compliance with the architectural requirements. S&M Welding was the fabricator and assisted in the detailing. A three-inch composite metal and concrete deck floor system was chosen at a slight premium over a one and one-half-inch metal and concrete deck floor system, but with considerably greater rigidity to provide a stiffer floor. The overall architectural requirements were obtained together with the flexibility for the installation of the mezzanine structures and future change.

Continued on Page 24



NBC Exhibition Hall
March 11-12 • 11 a.m. to 7 p.m.

1981 EXPO / BUILDERS' CONFERENCE

PLUS TWO DAYS
OF SEMINARS
RESERVE YOUR BOOTH
SPACE NOW

A spectacular two-day show for professionals, with exhibits of new products, services and techniques by Hawaii's major suppliers. Over 45,000 square feet of exhibit area with no host cocktails. Plan to attend the 11th annual 1981 Expo/Builders' Conference. Architects, engineers, builders, and specifiers - don't miss this opportunity to see what's new in your industry.

Sponsored by
Building Industry
Association of Hawaii

P.O. Box 17659, Honolulu, HI 96817
Phone 847-4666



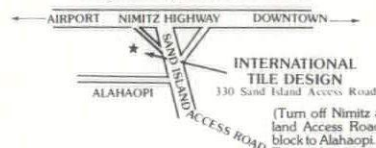
Idea Center... For Architects, Designers, Developers



New bath? Kitchen? Lanai? Come to the idea center—International Tile Design Hawaii's beautiful new Ceramic Tile showplace—32 full-scale displays. Design help from experienced professionals. Bring your plans. Your choice of Ceramic Tile Marble—plus much, much more—kitchen cabinets, bath fixtures, accessories and hardware, carpeting, wall covering. Beautiful choices—all yours—one source on one floor—one convenient stop.

Open 9 a.m. to 5 p.m. Mondays through Fridays. 9 a.m. to 3 p.m. Saturdays
INTERNATIONAL TILE DESIGN
a division of Pacific Terrazzo & Tile Corporation, serving Hawaii since 1959.

Easy to get there
Just off Nimitz at Sand Island Access Road
Telephone (808) 847-5959



(Turn off Nimitz at Sand Island Access Road. Go one block to Alahaoi. Turn right. Turn right again almost immediately into Oroweat-Holsum parking lot. Park and you're there.)



Laurels

HS/AIA Awards Program House of Music, Music and Record Shop

Award for Design Excellence
by Noe & Noe Architects/Bruce Hopper

PROJECT

The House of Music

LOCATION

Ala Moana Center

OWNER

Surfside Hawaii, Inc.

ARCHITECT

Noe & Noe Architects, AIA

PRINCIPAL ARCHITECT

Leon Noe

DESIGN

Noe & Noe Architects/

Bruce Hopper Design

GRAPHICS

Bruce Hopper

INTERIOR DESIGNER

Joanne Clarke

MECHANICAL/ELECTRICAL

ENGINEER

Cedric D.O. Chong & Associates, Inc.

ACOUSTICS/VIDEO

Wm Walters

GENERAL CONTRACTOR

Robert M. Kaya Builders, Inc.

CONSTRUCTION PERIOD

April 20 to May 20, 1979

PROJECT DESCRIPTION

MAIN FLOOR

Existing concrete slab on grade

MEZZANINE FLOOR

Existing structural steel frame with wood floor

EXTERIOR/PARTY WALLS

8" reinforced concrete block

PARTITIONS

Gypsum drywall, plaster, Miller Accon Panels

SPECIAL FEATURES

STOREFRONT

1/2" polished plate, silicone butt glazed Mezzanine Rail

3/8" tempered polished plate, specially designed stops, chrome pipe rail

LISTENING POST

Mirrored stainless steel, vandal proof speaker

Covers, etched House of Music General Lighting

5 custom designed high intensity metal halide

Fixtures with spun aluminum dome and stainless

Shields

Sound System

Engineered for sound in specific areas with minimal spillover; integrated with t.v. monitors for video display

COST

Architectural \$190,300

Structural 6,500

Mechanical 15,000

Electrical *33,200

Total Construction Cost \$245,000

Cost Per Square Foot 65

Furnishings,

Including Record Bins 35,000

Graphics (Trademark, Printing,

Uniforms, Signage,

Displays) 25,000

Sound and Video System 25,000

Wall Covering 5,000

Carpeting 15,000

Total Interior Design Cost \$105,000

GRAND TOTAL \$350,000

*Includes \$10,000 for custom designed light fixtures

The House of Music is an existing established musical product store in the Ala Moana Center, Honolulu.

After acquiring the business from its founder, the new owner desired a new image without compromising customer service which is the hallmark of House of Music.

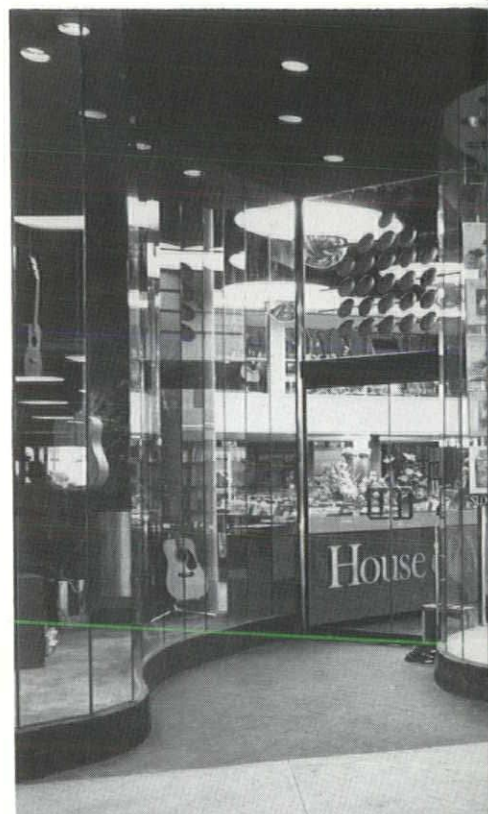
PROJECT SCOPE

The client's original intent was to "freshen up" the storefront to create an image more in keeping with current music trends and clientele. A major requirement was to incorporate visual and audio effects in an easily changeable display area for a variety of items from records to musical instruments.

The scope of work expanded upon investigation, because a major problem of the existing store was inefficient and ineffective product display not only in the storefront but throughout the store. Additionally, existing general lighting was subdued and somber and a more dynamic environment was desired.

PHYSICAL LIMITATIONS

The existing space is long, narrow and L-shaped with a low mezzanine. A stair to the mezzanine is hidden from view from the entrance. Steel vertical supports for the mezzanine and octagonal concrete columns over 1' - 6" thick penetrate the space at random. Existing lighting under the mezzanine was surface mounted with less than 7'-0" height clearance. Power was limited to the capacity of the existing supply conduit.



Storefront entrance.



View from entrance door.

JURY COMMENT

A carefully studied successful solution to a multi-functional commercial activity.

The traffic flow throughout the entire project is exceptionally well handled, the entry is inviting, the rounded bin ends reinforce the flow while providing pickets to encourage browsing.

There was an excellent attention to detail. Display well integrated into total problem and its design solution.

A dramatic but consistent use of architecture in an interior space.

BUDGET AND SCHEDULING

The client's foremost concern was scheduling and budget. Not only was there a definite construction cost ceiling, but the construction had to be done with minimal disruption to store operations during a "slow" time of year. Also because of cost concerns the client requested that as much as possible of the existing record and sheet music bins, shelving, lighting and air conditioning be retained.

DESIGN CONCEPT

Design of the House of Music was based on sight and sound to impart a musical encounter. A curvilinear theme was developed as a visual representation of the fluidity implied by music and a total sound system was engineered throughout the interior and exterior of the store to complete the experience.

SPECIAL EFFECTS/FLEXIBILITY

The storefront was considered the foremost special design effect. Lighting and sound are incorporated into a vortex-like entry to draw people into the store. The curved storefront features television monitors which transmit video tapes of best-selling artist's performances available for sale in the store. An existing structural column was transformed into a mirrored stainless steel "listening post" with the audio system for the television monitors hidden within and engineered to be heard only by people standing directly in front of each monitor. (The covenants of the client's lease forbid any advertising sound spillover from the store into the mall area.)

Flexibility was required at the display platform at the end of the register counter which doubles as a platform for live guest artists' promotions. The platform is wired for sound and video transmission back to the monitors. Additionally, a multitude of creative displays are possible with the curved track above and mirrored and textured walls. Lighting on additional curved track was designed for flexibility and existing eyeballs were reused in some areas for economy.

To obtain optimum visibility throughout the store for maximum sales and minimal shoplifting, and to minimize costs, the existing low bins were reused. Transformation of the low bins to

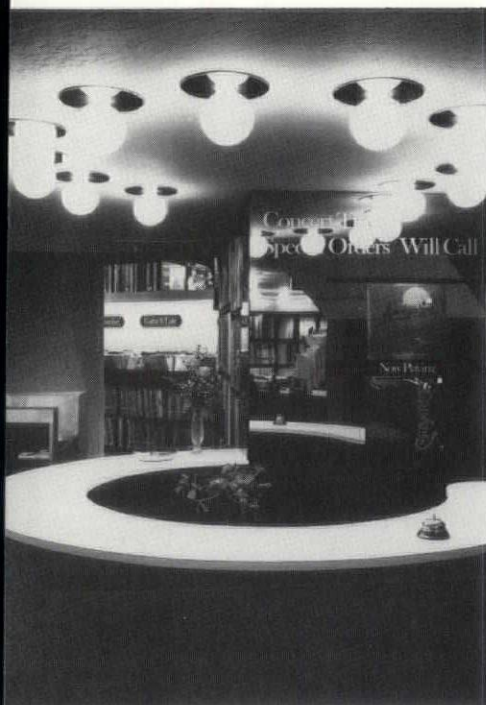
fit the curvilinear theme was accomplished by adding rounded display platforms at the ends and linking them into a pattern which encourages traffic flow throughout the store. New backs with clear plexiglas standards for graphic identification of products enhances sales without sacrificing desired visibility.

The bins were designed to be modular and movable which required non-directional general lighting. Also, a new curvilinear staircase to the mezzanine was precluded by limited space and budget. To meet lighting and visibility requirements, the existing ceiling was removed to expose the structural slab creating a greater volume which was then accented by five illuminated custom designed metal halide domed fixtures with polished stainless steel shields. The entire wall of the mezzanine floor was removed and replaced with a chrome and glass railing. The dramatic lighting and openness of the mezzanine created the desired effect of maximizing visibility and awareness of the instrument sales area and the general display in the bins. Graphic signage completed the job by pointing the way to the existing stairway which was economically repainted and carpeted.

OTHER CONSIDERATIONS

Lighting was kept simple except where dramatic effects were desired and even then costs were considered. At the ticket sales counter, listening booths, and piano room, for example, economical dime store sockets were recessed and covered with plexi mirrors and theatrical light bulbs. A simple fluorescent grid light soffit lights the cassette tape display which required accommodation of all types and sizes of tapes in both horizontal and vertical display.

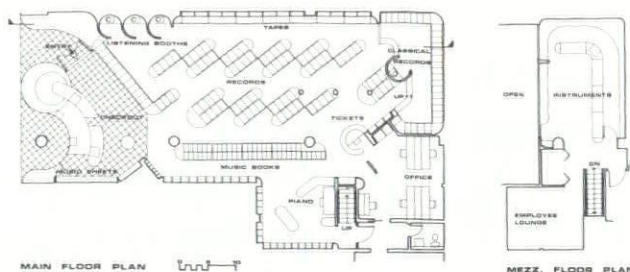
To control acoustics, an acoustics expert was consulted to engineer the intricacies of the total sound system including the listening booth system and the video monitors. Also hard plaster walls were alternated with walls covered with corded wall covering or acoustical fabric and cabinets and bins were made up of various combinations of corded wall covering, laminated plastic, wood and glass. The floor was



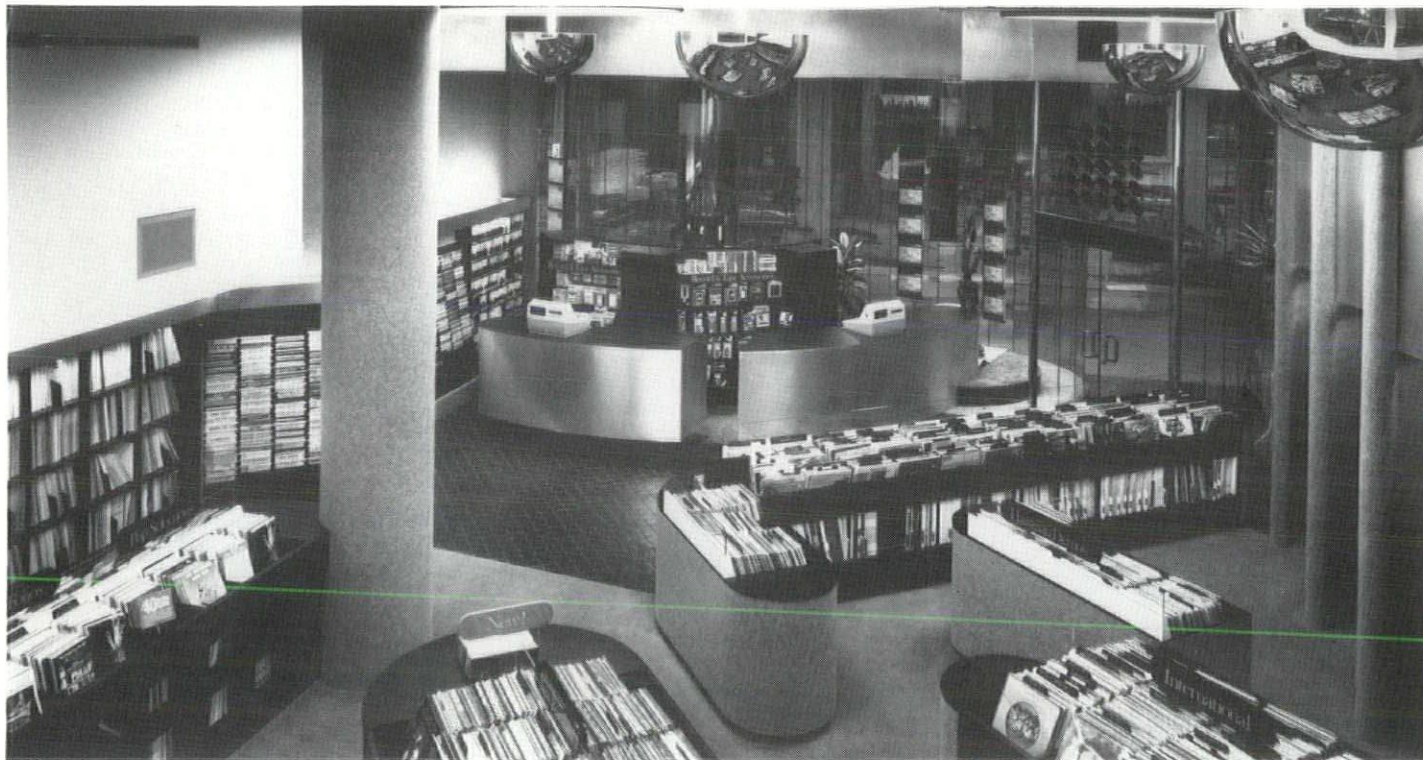
et sales booth.

Continued on Page 16

House of Music



Continued from Page 15



Overall from mezzanine floor.

redone with clay paver tiles at the entry, carpeting throughout the sales area and for economy, the existing teak parquet floor was retained in the office area.

The existing air conditioning system was partially retained and supplemented with a new unit and the system was rezoned for more efficiency. Linear diffusers were used wherever possible to integrate with the total design.

Ala Moana Center lease covenants limited construction time to after store hours. Also, because scheduling and budget were of such concern to the client, construction, including demolition was limited to one month and many long lead items such as the air conditioning unit, storefront glazing and custom lighting and fixtures such as the stainless steel listening post were designed and ordered before construction documents were complete. Modular furniture was selected rather than partitioned spaces at the office for fast, simple installation, space economy, and long term savings.

SUMMARY

The concern for sensitive design tempered by limited budget and tight scheduling demanded that everyone involved in the design process contribute talents in a timely and cooperative manner. We were very fortunate to be a part of a unique team in which the client recognized the value of design to enhance sales and agreed to adjust the scope and budget, the graphics designer was persistent and innovative in his approach to design of the total image of the store beyond graphics, the client's wife's desire to participate and contribution of her talent in interior finish selections, the mechanical engineer who was also the electrical engineer and therefore could efficiently coordinate both disciplines within the bounds of the new energy savings requirements and who also was enthusiastic about exploring the domed lighting, the acoustical consultant whose expertise made possible the use of video and sound in the storefront design and the contractor with whom negotiations began early and who managed to complete construction in a month despite

the restrictions of the shopping center's construction rules and regulations.

The fruits of the team's efforts are evident in the comments from staff as well as shoppers which indicate that product awareness, efficiency and shopping pleasure have increased, while current electric company readings show no apparent increase in power consumption. The success of the design is most evident in the growth of sales which has met desired projections for the House of Music. HA

McInerny, Royal Hawaiian Center . . .

RAND NEW EXCITING STYLE S 131-YEAR-OLD'S LATEST STORE LITTERS WITH GENUINE CERAMIC TILE

es, shining brightly even in
utiful new Royal Hawaiian
nter now sparkling
kaua Avenue in the heart
aikiki is multi-department,
ti-story McInerny, retail
hor for the area.

ou see here the expanse of
6 popcorn white Ceramic
that lends cheer to the
r for department after
artment, accenting quality
McInerny merchandise.
e tile fronts escalator to
ond floor.

housands and thousands
quare feet of Ceramic Tile
McInerny added to the
erous use of Ceramic Tile
ughout the Center help
ke the Royal Hawaiian
ter a shopping pleasure
visitors and home folks
e.

oyal Hawaiian Center in
kiki is one more achieve-
nt in continuing the trend in
vahi for greater and greater
ding beauty, expanding
of Ceramic Tile in all its
active and practical vari-

*Architect &
Interior Designer:*
Tosh Yamashita.

Contractor: **Hawaiian Dredging
& Construction Co.**



Hawaii Ceramic Tile, Marble & Terrazzo Promotion Program
615 Piikoi, Suite 804, Honolulu, Hi. 96814, ATTN: John P. Brack
(Tel. 526-0467 ask for "Tile")

Contact any one of these Promotion Program participants:

A-1 Tile Corp. 845-9945
Atlas Tile Inc. 839-7403
Leo Cecchetto, Inc. 848-2428
Classic Tile Corp. 841-6893
Custom Ceramics 538-3537

Hawaii Tile and Marble 839-5102
Honolulu Roofing Co. Ltd. 941-4451
S. Kunishiga Tile 734-3340
Lani's Tile Co. 235-1144
Logan Tile Co. 262-5754
Nan-Cor Tile Company 488-5591

Pacific Terrazzo & Tile Corp. 671-4056
Pacific Tile Co., Inc. 841-8534
Sato, Robert Ceramic Tile 841-8811
Tidy Tile 833-3042
Wichert Tile Ltd. 955-6631

ARCHITECTS, DESIGNERS, BUILDERS, Please Note
Every week in advertising in the Honolulu Sunday Star Bulletin & Advertiser
Hawaii Tile Contractors call special attention to you with this message:

"Building: Remodeling? Redecorating?
Ask your architect, designer or builder about the beauties and values of Ceramic Tile."



**Ceramic Tile, Marble
& Terrazzo
Belong in Hawaii**

Concrete Forming Methods

Continued from Page 9

more labor than slipform since the forms must be stripped loose of the concrete by hand before the form can be jacked to the next position.

Improvements in forming systems will occur with the development of new innovations in concrete, such as fiber-reinforced con-

crete, super plasticizers and high-strength concrete. Fiber reinforced concrete is being developed that will eliminate the need of reinforcing steel in some concrete applications. One of these applications will be in architectural precast cladding.

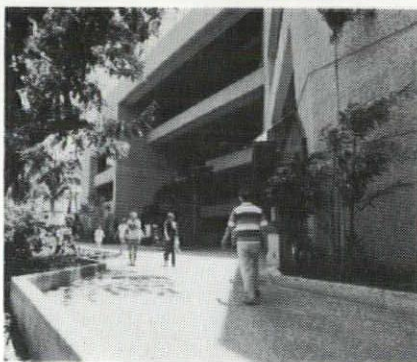
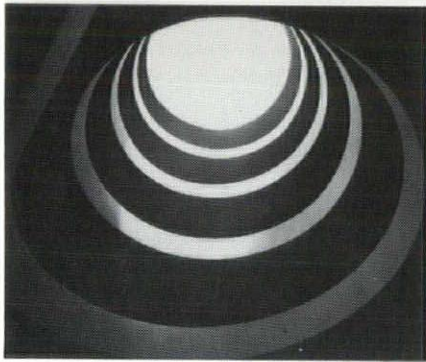
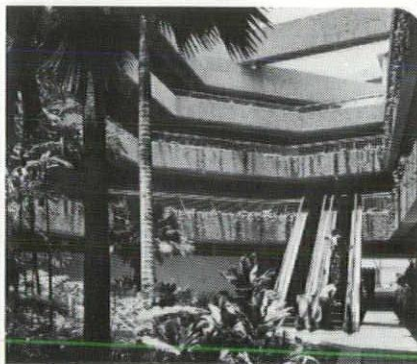
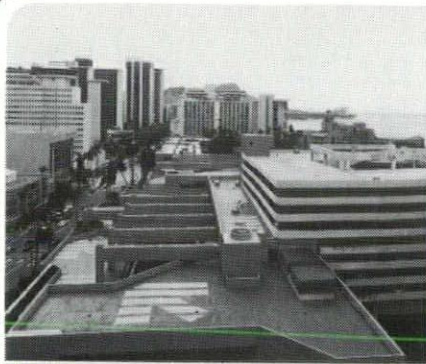
In recent years, an alkaline-resistant glass fiber has been developed that reacts favorably in hydrated cement. This method will allow the production of architectural cladding in very thin shapes as compared to a conventional reinforced product.

Superplasticizers are a new group of admixtures used to modify the properties of fresh concrete. Their principal feature is the ability to greatly increase concrete slump without an increase in water content. The development of these admixtures will improve the characteristics of concrete making the pumping and placement of concrete much easier. These admixtures are now being used successfully in projects in Europe and are currently being tested in the U.S.

High strength concrete is now being produced under laboratory conditions up to 20,000 psi, and buildings are being designed with 3,000 to 6,000 psi concrete. An increase in the strength of concrete should reduce the concrete and reinforcing steel now required.

These improvements, however, are still inadequate to curb the rising cost of construction. New ideas and techniques must be encouraged by the entire building community. We need a team effort between owners, developers, architects, engineers, contractors, and suppliers to develop new innovations and to design and utilize these ideas in upcoming projects. **HA**

CONCRETE



Architect: Wong & Wong; Structural Engineer: KFC & Associates; General Contractor: H. D. & C.

Waikiki Comes of Age

An aggregate of volcanite from the hills of the Big Island and limestone from Waimanalo imbues The Royal Hawaiian Center in Waikiki with true native warmth and strength. Bold architecture uses spacious arcades and large setbacks in Hawaii's fourth largest shopping center. Once again, the versatility of combining site-cast and pre-cast concrete achieves beautiful results.

For technical assistance in the wide range of effective uses of concrete, you are invited to call the Research Library of CCPI. 833-1882.



CEMENT AND CONCRETE PRODUCTS INDUSTRY OF HAWAII
Suite 1110 / Control Data Building / 2828 Paa Street / Honolulu, Hawaii 96819

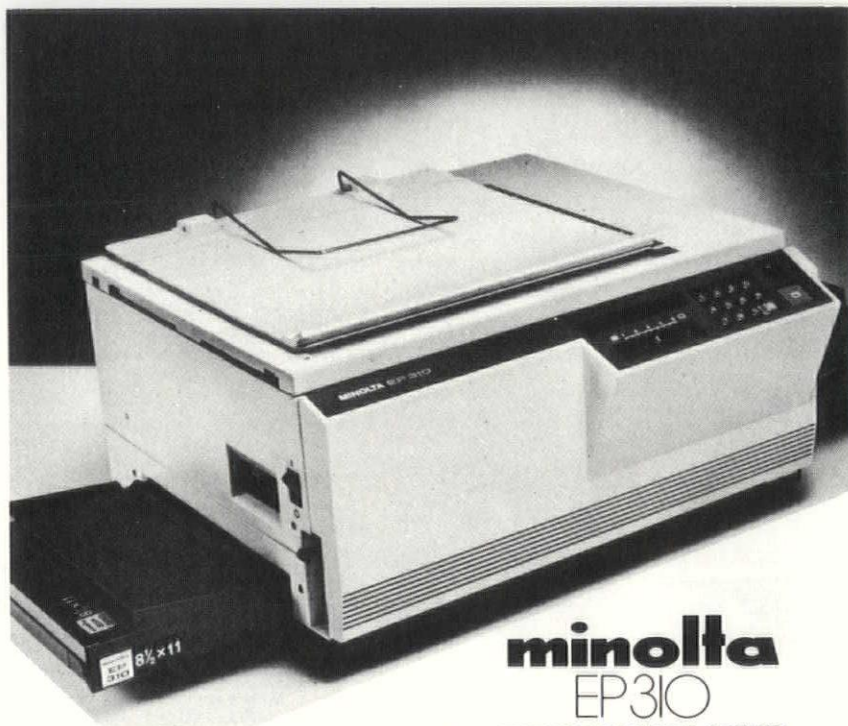
minolta

The **DEPENDABLE** plain paper copiers.

With the Minolta EP 310 you can get consistently high plain paper copy quality at a very affordable cost per copy.

With a lot of features for dependable operation that you usually see only on much more expensive copiers. The EP 310 is virtually jam-proof because it has an extremely short, straight paper path. It has a long-life photoconductor drum and fusing rollers that can last three times as long as those on comparable copiers. And there's a dry toner recycling system that saves money.

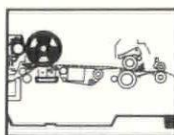
The EP 310 copies virtually any original, even three-dimensional objects like books. And it uses just about any kind of paper up to 10 1/4" x 14". Including your letterhead, colored papers, even overhead projector transparencies. With copy quality you must see to believe.



minolta
EP310
THE PLAIN PAPER COPIER

SIX FEATURES THAT MAKE THE MINOLTA EP-310 DEPENDABLE

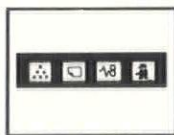
1. An extremely short, straight paper path. Virtually eliminates jamming, one of the major causes of copier breakdowns.



2. Toner recycling system. Keeps the machine cleaner by reusing excess toner. Also saves money by making toner go further.



3. Self-diagnostic system Number One. When things go wrong, it tells you the right thing to do: add toner, add paper, clear the paper path or call the serviceman.



4. Self-diagnostic system Number Two. Signals that let you tell the serviceman over the phone where the problem is located. "Clam-shell" construction and snap-out modules mean fast service when it's needed.



5. Copy interrupt mode. A computerized copy control panel allows interruptions of long copy runs. The original count is stored in the memory while the interrupt copies are made. A touch of a button allows the longer copy run to be restarted, without losing count.



6. Long-life photoconductor drum. The photoconductor drum is longer lasting, thanks to state-of-the-art chemistry and greater resistance to damage.



LEASE/PURCHASE PLANS

Call us to arrange a demonstration or let us give you a free work flow analysis. No obligation, of course.

HONOLULU
740 Ala Moana
524-0220

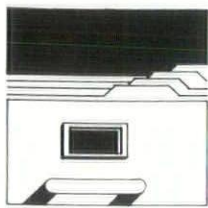
KAHULUI
261 Lalo Street
877-7331

HILO
101 Holomua
935-5401

KONA
74-5603 Alapa
329-1308

**office
things
inc.**

A different kind of company where promises and customers are kept.



Index

Precast Prestressed Concrete Can Save Time

by RICHARD L. HEGLE
Chief Product Engineer
Ameron HC&D

Architects, engineers, and contractors in Hawaii have been using precast prestressed concrete in their structures for about 25 years since the first manufacturing plant was established here. The steady growth in the use of concrete products has resulted in the building of production facilities on the islands of Maui and Hawaii as well as additional plants on Oahu.

The variety of products used and the diversity of structures incorporating them is a tribute to the

innovative abilities of the construction professionals to hold down costs by using the latest techniques.

Some of the standard products now available are piles, columns, solid slabs, hollow core slabs, tri-tee, tri-slab, single tee, double tee, beams, beam soffits, joists, spandrels, and bridge girders. In addition, many special sections are provided for individual projects requiring unique structural framing such as stadium seats, folded plate

roots, and other.

This development has occurred during a time when the cost of construction has increased tremendously, due in large part to much higher labor and financing costs. Material costs also have risen, but their proportion of the total construction dollar has steadily become less in recent years. Material costs are to a large extent out of the control of the people and firms engaged in construction activity, whereas jobsite labor and the con-




Where to go For

BUSINESS DINING

RESTAURANTS & CATERING

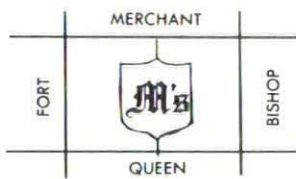




Breakfast - Lunch - Cocktails
in the heart of Downtown.

M's Coffee Tavern 6:30-2 P.M.	Cheerio Room OPEN 9:00 A.M.
-------------------------------------	-----------------------------------

"No Sir, there is nothing which has yet been contrived by men, by which so much happiness is produced, as by a good tavern or inn."
Samuel Johnson



*Go public for lunch,
dinner & Sunday brunch.*

At Dickens Pub the dining, drinks, decor are all superlatively British. Tiffin, 11 a.m. - 10 p.m., Toddy till 1 a.m., any business day. Telephone at every table. Sunday brunch, 10 a.m. to 3 p.m. Validated parking.

DICKENS

1221 Kapiolani Boulevard Honolulu 531-2727

**CONSISTENTLY GOOD
CHINESE FOOD . . .**

**Now Serving
Hot and Spicy
Dishes for Dinner**

CHINESE AND AMERICAN FOOD

Coral Reef

Restaurant and lounge

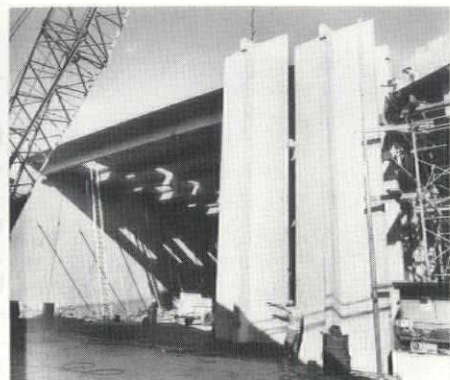
Mauka side next to Woolworth
1259 ALA MOANA CENTER

Open from 11 AM to 9:30 PM
Sundays 11 AM to 3 PM
Phone: 949-3500

*These fine
eating places
can be enjoyed
for
breakfast, lunch, dinner,
or a catered affair.*

struction schedule can be reduced by increased productivity—fewer men to build a structure in less time. This is where the use of plant-produced precast prestressed concrete can result in great savings.

Many of a project's structural framing members can be produced



GRAPHIC PICTURES HAWAII

in a plant more efficiently than at the job side through the repetitive use of forms, specialized labor-saving equipment, and high strength materials. Simultaneously, site work can proceed, such as placing foundations, grade slabs, and walls or columns, in preparation for the precast floor, roof, or wall framing system.

The availability of mobile and tower cranes, and large capacity trucks enables the contractor to place hundreds of square feet of precast members per day into the structure. Forming labor and material costs are drastically reduced, it not eliminated. Composite concrete topping is placed by pumps or buckets over the precast to create thin, long-span but stiff floor and roof systems. This process is repeated floor after floor with a minimum of site labor and construction time between initial grading and topping out.

Other characteristics of precast prestressed structural framing which can result in less site labor and shorter construction time are:

- Long spans with load carrying capability resulting in fewer columns, walls, and footings to construct.
- Locally produced products resulting in shorter delivery schedules, thereby minimizing lead time and reducing carrying costs.
- Familiarity with the product by local building trades.
- Concrete's natural corrosion and fire resistance without

Continued on Page 22

A

Natural Choice



BRUCE hardwood floors are now distributed in Hawaii by:



ALOHA

STATE SALES CO., INC.

2829 Awaawaloa Street

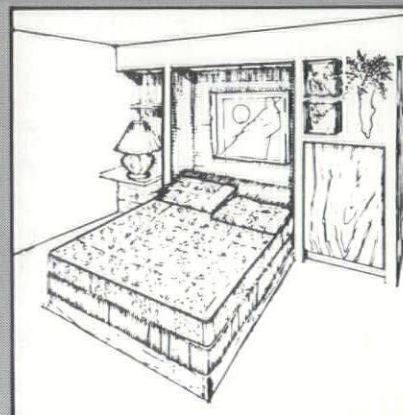
Ph. 833-2731

The best laid plans include a SICO Wallbed.

SICO's Disappearing Wallbed system is the perfect answer to the problem of limited living space. By day, out of the way. By night, a sleeper's delight. Designed for single, double or queen-size sleep sets. No loss of comfort... a great gain in living area. Get in touch... we'll give you the complete space saving, sound sleeping story.

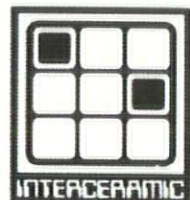
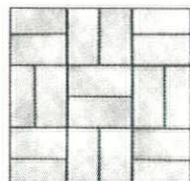
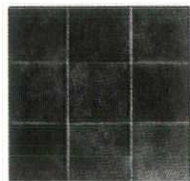
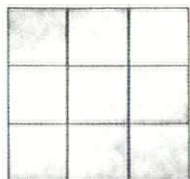
paul rasmussen inc.

422 Keawe St. /Honolulu /Ph. 521-3818



CERAMIC TILE

RETAIL • WHOLESALE
RESIDENTIAL & COMMERCIAL
INTERCERAMIC TILE
(4x8 and 8x8)



SKID-resistant surfaces.
HIGH abrasion resistant glazes.
VITREOUS body—flat, plugless anchor
back for easy installation.
MINIMUM maintenance.
EXTERIOR and interior uses.
EXCELLENT for commercial and residential use.

INTERCERAMIC glazes are resistant to
wear under heavy traffic conditions.
INTERCERAMIC has a hard body, capable
of withstanding abuse and rough usage.

SEE US NOW FOR YOUR REQUIREMENTS

Moreira, Inc.
CERAMIC TILE CENTER

845-6461

1297 Kaumualii Street
(Back of Times Kapalama)

Mon.-Fri. 7:30-4 / Sat. 9-1



Precast Prestressed Concrete

Continued from Page 21

additional treatment.

One of the major material, labor, and time-saving features of precast prestressed structural framing is its use as a "leave in place" structural form. The precast deck provides an immediate working platform for plumbers, electricians, and other trades to expedite their work.

Whether it consists only of beams with a cast-in-place slab between, or a complete precast soffit system such as solid plank, tri-tee, or hollow core planks, the precast section generally contains a major portion of the total reinforcing required and much of the total final concrete cross section.

It can almost be considered as a "cost free" forming system when compared to the cost of conventional wood forming requiring many carpenters to repetitively set up and strip plywood forms with their multitude of supports to the floors below.

Another advantage of precast prestressed concrete is that it can be designed to minimize or eliminate formwork requirements. A high ceiling, unfavorable ground conditions, or required access to the space below may make it infeasible to provide shoring. Low-rise structures of non-typical bay layouts also lend themselves to precast systems as economies resulting from repetitive (flying, jump, slip, and such) form utilization cannot be realized.

Alternative structural framing systems are generally evaluated by the architect and engineer during preliminary design of a proposed structure. The most economical solution for a particular site and structure is often not readily determined. This article has attempted to summarize some of the features of one particular construction material and provide the design professional with information to use in this decision making process. **HA**

artmet LANDSCAPE OFFICE PARTITIONS

Custom Architectural Accoustical Walls & Screens



distributed by
T.R. COMPANY
1517 Kapiolani Blvd.
949-2011

We're saving big money at some of the best restaurants in town!

These are just a few of the fine restaurants in Honolulu that are enjoying a virtually cost-free source of hot water with a Cosco Heat Transfer System. With our 33 years of experience in heating, we utilize the heat discharged from present air conditioning systems, and use it to heat the water. All at a cost that's totally recoverable in 6 to 8 months. Sound Incredible? Just ask the folks at La Paloma, Geno's, La Mancha or The Greenery!

COSCO
ENERGY SYSTEMS

841 Cooke Street
Honolulu, Hawaii 96813
(808) 531-4615



Photography by

GIL GILBERT

colorprints, inc.

324 Kamani Street / Honolulu, Hawaii 96813 / Phone 533-2836



**The photographer can be proud of his work—and ours!
We can enhance your architectural interior design ideas
with the following services.**

- **Copies of Color Art** — We specialize in making crisp, clear and evenly illuminated copies from flat color art work and paintings. They are obtainable as negatives, prints, projection slides and reproduction quality transparencies for separations.
- **Large scana murals, on fabrics**
- **Mural size photographic prints, color or b/w**
- **Large transparencies for light box**
- **Custom color prints for your portfolio or sales book**
- **35 MM slide duplicates for presentations**
- **Ektachrome processing in 3 hours**



For all your color needs call:

533-2836

ASK FOR
**COLOR
PROCESSING**
BY **Kodak**

Structural Steel

Continued from Page 13

To illustrate this latter point, a recent design change has just been completed wherein a second floor column supporting the roof will be

removed to provide a column-free space for a theater. It was possible through a process of strengthening of the wide flange beams and

columns to accomplish this. With concrete or wood framing, this would have been an almost insurmountable problem.

First Methodist Church Classroom & Administrative Facilities

As part of the Admiral Thomas Condominium project, a two-story classroom and administrative facility of about 20,000 square feet was constructed for the First Methodist Church. In consultation with Warner Boone, architect, and Swinerton & Walberg, precast, pre-stressed concrete floor members supported by cast-in-place post-tensioned girders were initially chosen as the structural material. Designs were completed and Swinerton & Walberg prepared a complete estimate.

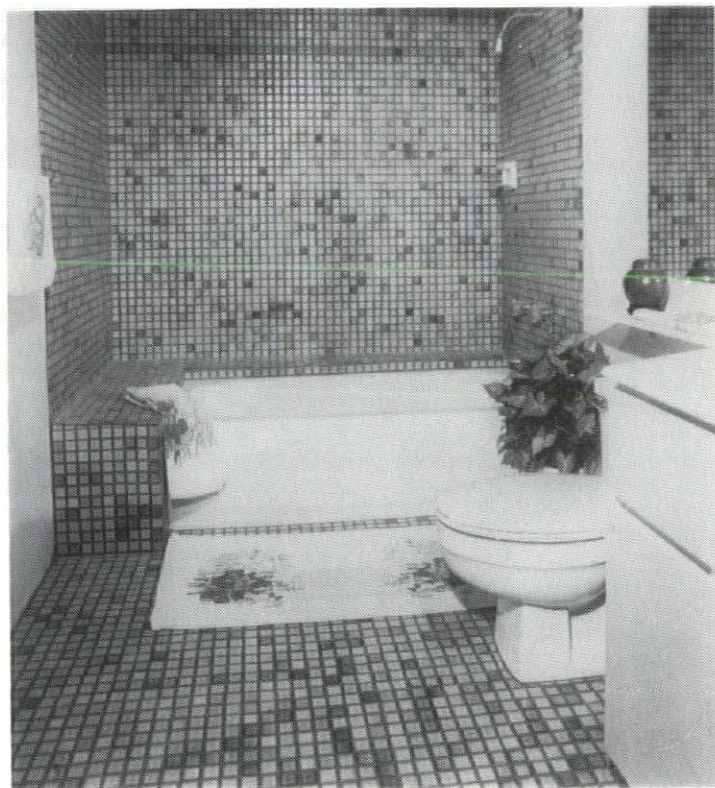
Because of the location of the building outside of the radius of the climbing crane, significant costs were anticipated for crane service, resulting in a higher than anticipated cost. The usage of structural steel with open web steel joists was investigated with the assistance of Carlton Nichol of ICSW. A preliminary design was completed and Industrial Welding, the steel fabricator, provided estimates. The final design resulted in savings of about \$2 per square foot, and with the use of structural steel, the cantilever conditions at the corners were easily accommodated.

The team chose nominal joist spacing of approximately five feet to fit the air-conditioning units between the joists, and a three-inch composite metal and concrete deck floor system. The structural steel beams and joists of the roof were sloped to provide the necessary roof drainage. Thus, an efficient, rapidly constructable building was obtained, meeting the architectural requirements.

As with this project and others,

Continued on Page 26
HAWAII ARCHITECT

A Cascade of Color!



Richard Hillman, designer, chose our Hanalei 1 $\frac{3}{8}$ " ceramic glazed tile for the bath of the penthouse apartment at Kapiolani House condominium to set off the gleaming white tub against a cascade of color. Tile is the perfect answer for any bath—so easy to keep sparkling clean and sanitary. Permanent, too. Where you find luxury, you'll find our beautiful glazed tiles.

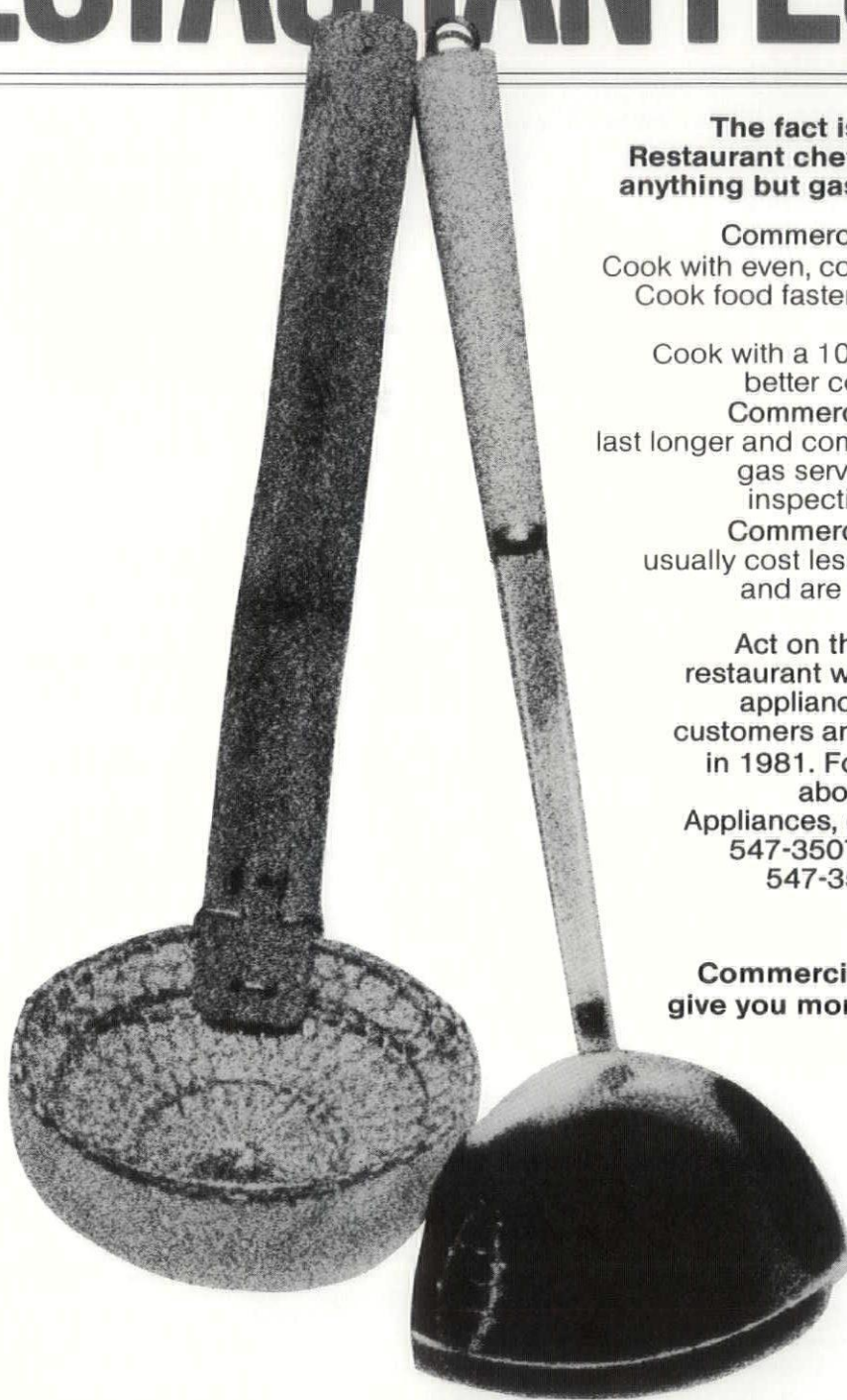
Tile installation by Tidy Tile/Bert Mitsunaga, General Contractor.

You and your clients are welcome to visit our showroom to study our complete line of beautiful ceramic tile.

Central Pacific Supply

2855 Kaihikapu Street (Mapunapuna District)
Honolulu, Hawaii 96819 • Phone 839-1952

RESTAURANTEURS



The fact is most of Hawaii's Restaurant chefs won't cook with anything but gas. And here's why:

Commercial Gas Appliances:

Cook with even, constant temperature.

Cook food faster so your customers get faster service.

Cook with a 1001 heat settings for better control and flexibility.

Commercial Gas Appliances last longer and come with dependable gas service including FREE inspection and adjustment.

Commercial Gas Appliances usually cost less than electric ones and are easy to keep clean.

Act on the facts. Equip your restaurant with commercial gas appliances and get happier customers and increased profits in 1981. For more information about Commercial Gas Appliances, call Harold Chun at 547-3507, Tony Shannon at 547-3505 or Conrad Oda at 547-3506.

Commercial Gas Appliances give you more for your energy.

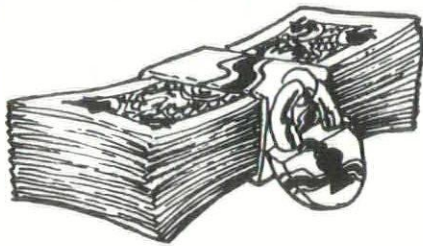


The Gas Company

A PRI Company

1050 Bishop Street

The Money Savers



**NEED A CAR-TRUCK-
VAN OR A FLEET
NOW?**

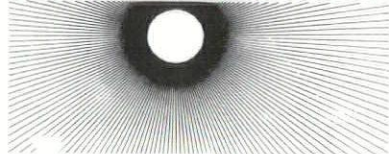
**OUR TRANSPORTATION
LEASE SPECIALISTS
SAVE YOU MONEY!**

**CALL US TODAY
946-5231**



TRANS-LEASE HAWAII LTD.
Subsidiary of Aloha Motors
1801 Kalakaua Ave.
Phone: 946-5231

SAVENERGY



Fact: Metal lath/steel stud curtainwalls can offer dramatic reductions in heating-cooling energy consumption and operating costs.

On an average day with temperatures in the mid-80s, the heat gain through one square foot of the lath/stud wall will be 1 Btu an hour. Heat gain through a conventional masonry wall would be about 4 Btus an hour. Through a double-plate glass wall—7 Btus. And through a precast concrete wall—10 Btus.

More facts: Installed costs for metal lath/steel stud curtainwalls are about 50 per cent less than comparable masonry or concrete installations.

**Keeping
Hawaii
Plastered**



Plaster Information — Don Morganella
**PACIFIC BUREAU for
LATHING & PLASTERING**
905 Umi St. — Rm. 303 Ph. 847-4321

Structural Steel

Continued from Page 24

we have found that two-story office and commercial structures of structural steel construction can in many instances be more economically provided than comparable concrete structures when the architectural requirements are unique.

As many of you have noted in architectural magazines, both articles and advertisements indicate a wide usage of structures of this nature on the Mainland. When possible, an extension of our local experience in the future will be the usage of truss girders coupled with open web floor joists such as currently are being promoted by Vulcraft, a Mainland fabricator of open web joists.

Arizona Memorial Shoreside Facility

The Arizona Memorial Shoreside Facility utilizes exposed aggregate architectural concrete for the exposed members in keeping with the design concept of Don Chapman of Chapman, Cobeen, Desai, and Sakata, Inc., project architects. The site, however, rests on filled land where Halawa Stream enters Pearl Harbor. Long term settlements are anticipated and a re-leveling capability was designed into the foundation system.

To provide minimum weight coupled with some degree of flexibility and diaphragm restraint, a structural steel roof system was chosen. One-half-inch in twelve roof slopes were easily provided to facilitate drainage in accordance with Navy standards. A rigid insulation and built-up roofing system was applied over the one and one-half-inch metal deck.

In summary, the adaptability of structural steel together with the capability of Hawaii fabricators and material suppliers has created a wide range of projects wherein structural steel can be economically utilized providing both functional

and pleasing architecture. The capabilities of the fabricators and suppliers can be very helpful. The formulation of the design in a team effort with the architect, fabricator, material supplier, and structural engineer can be challenging and yield satisfying results. HA

Classified Notices

Call 521-0021 to place a classified ad \$3.50 per line, 4 line minimum, approximately 5 words per line. Payment must accompany order.

Two Story, 2 bedroom, 2½ bath townhouse, KAHALA VIEW ESTATES, carpets, blinds, all appliances, \$850/mo; call 737-8409 or 524-3850.

ADVERTISERS INDEX HAWAII ARCHITECT JANUARY 1981

ALOHA STATE SALES	21
AMELCO ELEVATOR	28
AMERON HC&D, LTD.	11
BUILDING INDUSTRY	13
BYRON II	27
C.C.P.I.	18
CENTRAL PACIFIC SUPPLY	24
COLORPRINTS, INC.	23
COLUMBIA INN	27
CORAL REEF RESTAURANT	20
COSCO ENERGY SYSTEMS	23
DICKEN'S PUB	20
FLAMINGO RESTAURANTS	27
GAF HAWAII, INC.	5
GASCO, INC.	25
IMUA BUILDER SERVICES	7
INTERNATIONAL TILE DESIGN	13
EARLE M. JORGENSEN CO.	2
LE BON RESTAURANT	27
M's COFFEE TAVERN	20
MOREIRA, INC.	22
OFFICE THINGS	19
ORSON'S RESTAURANT	9
PACIFIC BUREAU FOR LATHING & PLASTERING	26
PAUL RASMUSSEN	21
RENOWN RESTAURANT	27
SCANLINE DESIGN	12
SEAFOOD EMPORIUM	27
SKYLIGHTS OF HAWAII	9
STUDCO, INC.	8
T.R. CO.	22
TERUYA RESTAURANT, INC.	27
TILE, MARBLE & TERRAZZO	17
TRANSEASE	26



Where to go For BUSINESS DINING



RESTAURANTS & CATERING

Columbia Inn

645 KAPIOLANI BLVD.
"TOP OF THE BOULEVARD"

Restaurant-Bar-Coffee Shop

OPEN 24 HRS.
(except the wee hours of Monday morning)



Le Bon Restaurant



Serving
DINNER
at MODERATE PRICES

from 6 P.M. every
evening our waiters and
waitresses—
"SING FOR YOUR SUPPER."

DINERS • AMERICAN EXPRESS
MASTERCARD • VISA accepted
Valet Parking

1376 Kapiolani Blvd. Reservations Ph: 941-5051

Luncheon served from 11AM to 2PM,
Monday thru Friday. Cocktails till closing
at 10 PM. Light lunches on Saturdays.
In the Davies Pacific Center, on
Merchant and Alakea Sts. Phone 521-7133.
A Flamingo Restaurant

*These fine
eating places
can be enjoyed
for
breakfast, lunch, dinner,
or a catered affair.*

**A MOST COMPLETE
SEAFOOD RESTAURANT
IN WAIKIKI**

- Contemporary Environment—with a touch of class
- Delectable Seafood—fresh Hawaiian fish, Maine lobster, Shellfish Paella, Pastas, Salads, French Fried Seafood, steak combinations
- Quality Bar Service—Mai Tai a specialty



THE SEAFOOD EMPORIUM

2201 Kalakaua Avenue • Telephone 922-5547
Royal Hawaiian Center. Discount parking in building

**Now, we're open till
midnight.**

We cordially invite you to come and enjoy our
fine family dining during our new extended hours:

Monday - Friday, 6 a.m. to midnight;
Saturday, 8 a.m. to midnight;
Sunday, 8 a.m. to 9 p.m.



teruya's

1333 River Street
Phone 533-1218

TAKE A MILANESE LUNCHBREAK
Break away from the office.

Have Northern Italian — or Continental —
lunch or dinner with us. Any day. Buon gusto!

RENOWN MILANO

Lunch 11 a.m.-3 p.m. • Dinner 5:30-11:30 p.m.
Happy Hours 3-6 p.m., 10 p.m.-midnight
Discovery Bay Shopping Center
Ph. 947-1933, 947-2562 • Validated parking at rear



BYRON II

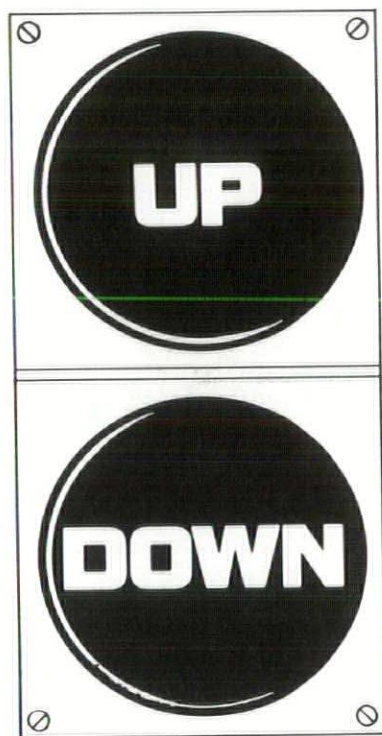
**A GREAT WATERING HOLE—Elegant
Atmosphere, Bountiful Cocktails,
Superb Food and Excellent Service**

Luncheons, 11:00-3:00
Dinners served from 5 p.m.
Cocktails served from 10 a.m.
1259 ALA MOANA CENTER
TELEPHONE 949-8855

OCEANSIDE IN THE ALCOVE BY THE TRAVOLATOR



Have rising elevator maintenance costs got you down?



Get a fast free comparative estimate from Amelco Elevator today. You can take for granted an elevator's instant response to your signal. But you can't assume your present preventive maintenance contract also brings you the kind of emergency response and modest monthly billings Amelco Elevator clients expect. Up to it? **Call 845-3291.**



Amelco Elevator

An Hawaiian Company

239 Puuhale Road / Honolulu, Hawaii 96819 / Phone 845-3291