

# CASE STUDY HOUSE NO. 21

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This twenty-first project in the magazine's Case Study House Program is now on exhibition to the general public. Located at 9038 Wonderland Park Avenue, the house is open on Saturdays and Sundays, from 1 to 5 p.m. through February 22, 1959.

The design is beautifully articulated in steel and represents some of the cleanest and most immaculate thinking in the development of the small contemporary house. The magazine is particularly happy to be able to present this project to its readers.

Case Study House 21 represents a form of culmination of development of the steel house, as it represents the epitome of architectural refinements, in planning and execution, in a material heretofore considered experimental. By utilizing readily available steel shapes and products in a carefully conceived manner, a finished product comparable to any other luxury home is achieved minus the excessive cost usually associated with quality and originality.

The house, surrounded completely by water, introduces a new concept in the use of water as an integral structure and landscape element. There is no dichotomy involved; rather an architectural whole is achieved as the water reflects and amplifies the linear quality of the structure while adding serenity and esthetic beauty.

Spanning the pool, brick terraces provide access to the living areas. In addition, they add another plane and texture to the interplay between water and structure. The mirror-like quality of the water is subject to continual changes of mood and character. The sound of falling water, from the scuppers on the fascia into the pool, contributes aural pleasure and cooling atmosphere during the heat of the day.

At specified times, through the use of a time clock, the water is pumped up from the pool to the gutter where it falls by gravity through the scuppers, circulating and aerating the water. The hydraulic pump for the system was supplied by the Peerless Pump Company.

A pool is located in the central court of the house, further establishing continuity of theme. Here water is sprayed against a mosaic tile wall, and falls back into a planted reflecting pool at the base of the wall.

A simple and exciting plan is achieved by utilizing the interior court and two baths together as one element, completely disengaged from the exterior walls of the house. This central core acts as the barrier between living and sleeping areas. The interior court and pool acts as the nucleus of the house and allows light to penetrate the living area and kitchen at a point furthest from the exterior. Bellevue steel frame sliding glass doors admit access to the court from the living area and the two baths.

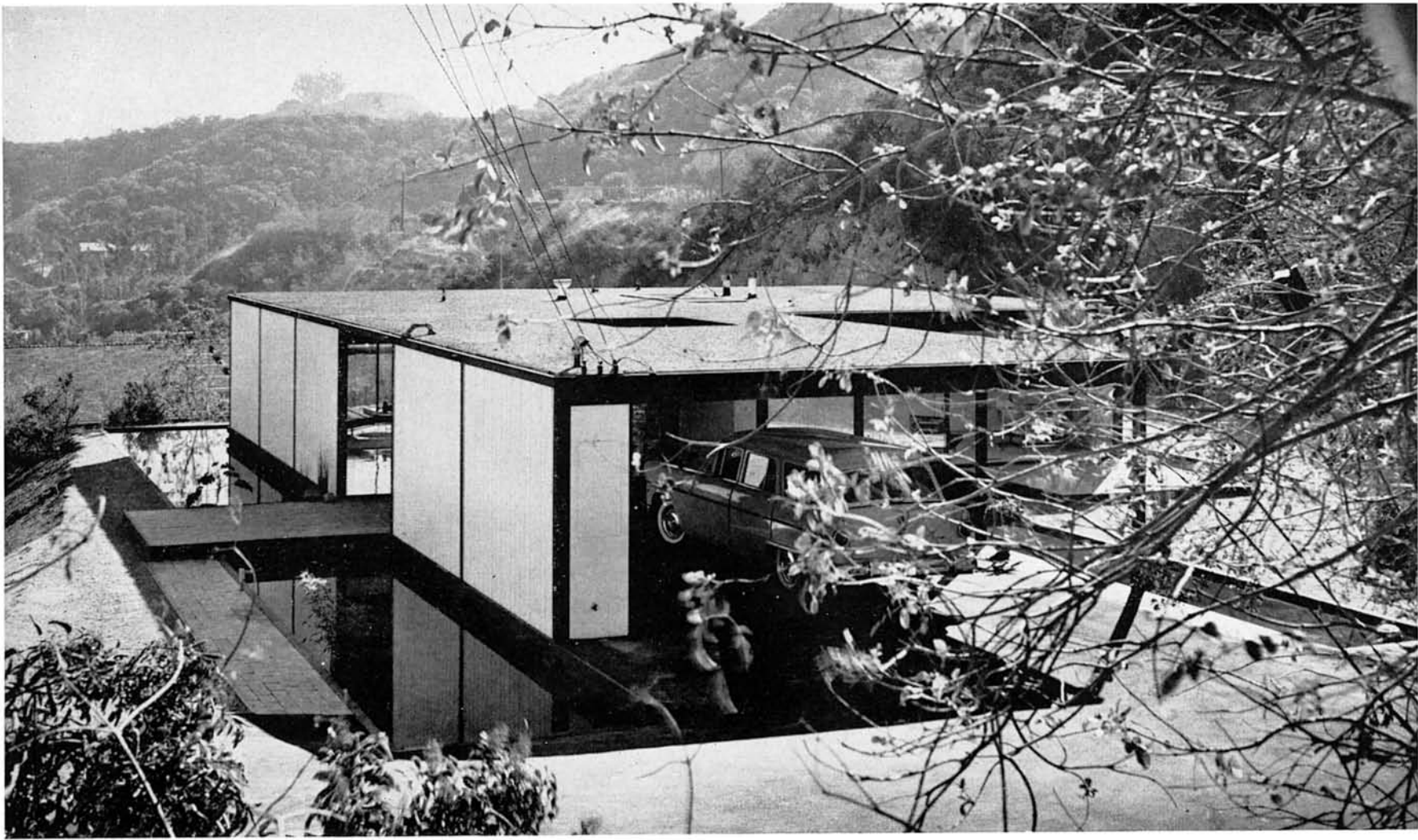
With 8" steel I beams, 22' long and spaced 10' apart, the living portion of the house resolves to an area 30' x 44' with only two columns in the interior. Exposed steel roof deck spans across the beams and is used to maximum efficiency. Between the columns spaced 10' apart, job assembled "curtain" walls fill the spaces between the columns. These economical panels consist of steel decking on the exterior. There is space between the outer skin and the interior surface for wiring, pipes, and insulation. The Kaiser gypsum board

PAT HAMILTON, GENERAL CONTRACTOR

INTERIORS BY VIKI STONE FOR S M FURNITURE COMPANY



PHOTOGRAPHS BY JULIUS SHULMAN



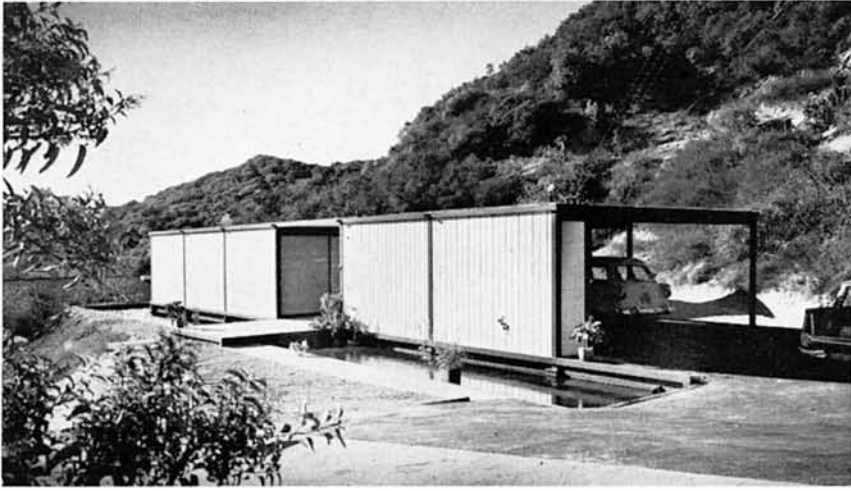
LOOKING TOWARD CARPORT WITH ENTRANCE TERRACE TO THE LEFT

VIEW SHOWING INTER-RELATIONSHIP OF TERRACES AND POOLS. THE TERRACES ARE PAVED WITH THE NEW DAVIDSON PAVING BRICK.



DIRECT ENTRY FROM CARPORT TO KITCHEN IS SHOWN ON THE LEFT. STUDY IS AT THE RIGHT. TABLE BY KNOLL ASSOCIATES

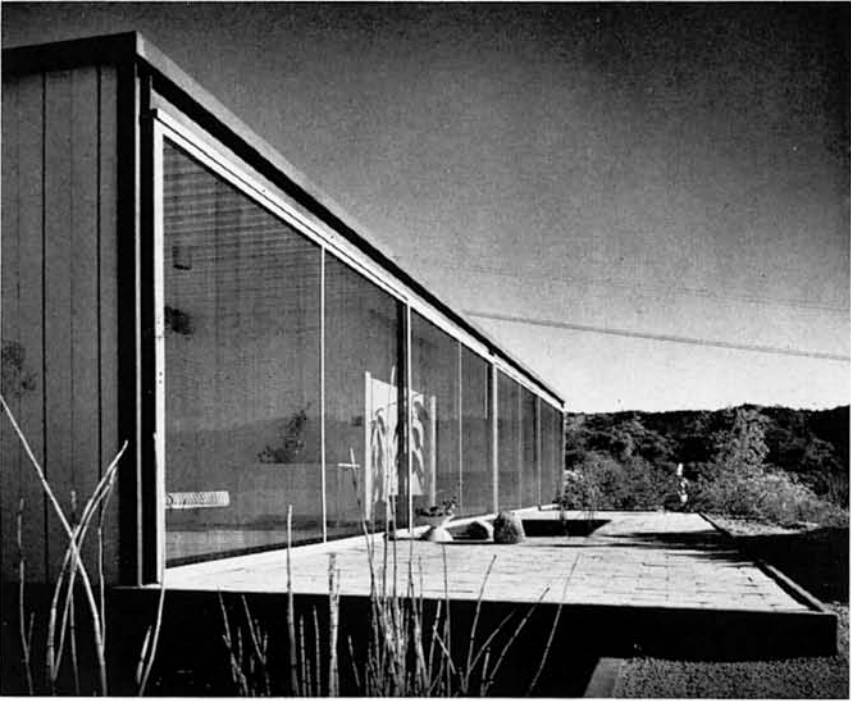




STREET ELEVATION

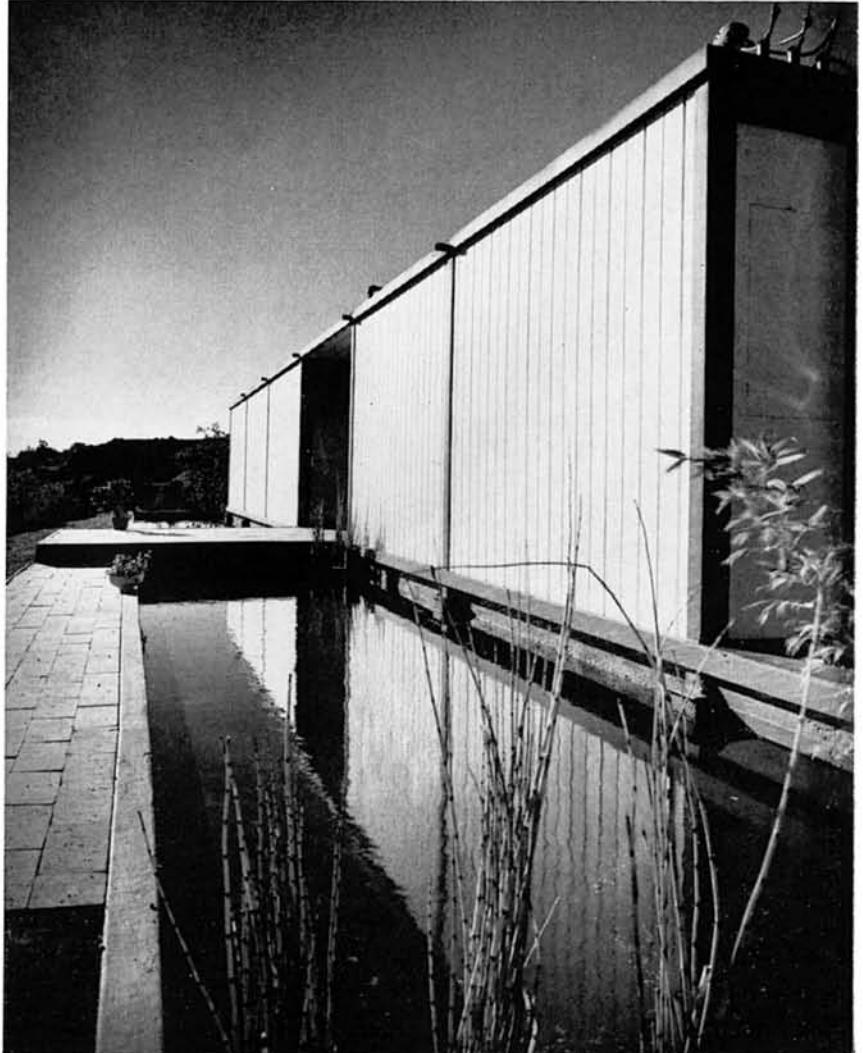


SAND-BLASTED GLASS SET IN STEEL SLIDING DOOR IS MAIN ENTRANCE ON THE LEFT. GARDEN POTS BY ARCHITECTURAL POTTERY



SLIDING KOOLSHADE SCREENS PROTECT SOUTH ELEVATION FROM SUN AND GLARE

TRANQUIL EFFECT OF WATER IS EVIDENT AT THE ENTRANCE WALK



is fastened to three girts on the inside of exterior walls as explained in earlier issues. Interior partitions are 2" solid laminated gypsum. The wall insulation is 1" thick glass fiber board. Steel-framed glass sliding doors by Bellevue Metal Products are welded between the columns spaced 22' apart.

For a precise elevation and maximum sun control, Koolshade screens are used on the south elevation without the necessity of an overhang. The same screens are used over the opening above the central court for sun protection and a feeling of enclosure.

For general long term protection, and to protect the steel that is adjacent to water, Perma Bar Waterproof Coating was used as a prime coat throughout with a super vinyl sprayed over, by the same company, where a different color was desired. By using the primer as the trim color, no additional finish painting was necessitated. The basic overall color of the structure is flat white with the trim flat charcoal in order to define and delineate the crispness of steel and its inherent advantages of size to length ratio. The pool system is asphaltic concrete and concrete curbs and is also sealed with Perma Bar.

All the furnishings shown are by S M Furniture Company with the exception of the Knoll table shown on the terrace, and the dining chairs by Herman Miller. The black naugahyde sofa is an extension of the chair in the study. The hi-fi cabinet in the entry-living area is 10' long and has the speaker located at the living room end with equipment and storage taking the remaining space. The blue and white striped spread as well as other appointments are by Viki Stone who also collaborated with the S M Furniture Company and the architect in the planning of the furnishings.

All kitchen appliances and fixtures are from General Electric with the exception of the stainless steel counter under the wall-hung refrigerator and the broom closet at the far left, both of which are job built. The kitchen center is complete with sink, range, oven, dish washer, clothes washer-dryer, disposer and stainless steel top and splash. The General Electric cabinets above the center, supported on a steel frame, also contain the Pryne fan and a fluorescent light. There is another oven with a rotisserie on the storage wall.

The brick terraces are paved with the new Davidson Bel Air Flats, framed in steel channels and raised above the ground and over the water. These new wide, over-size paving bricks add a warm color and texture contrast for the house.

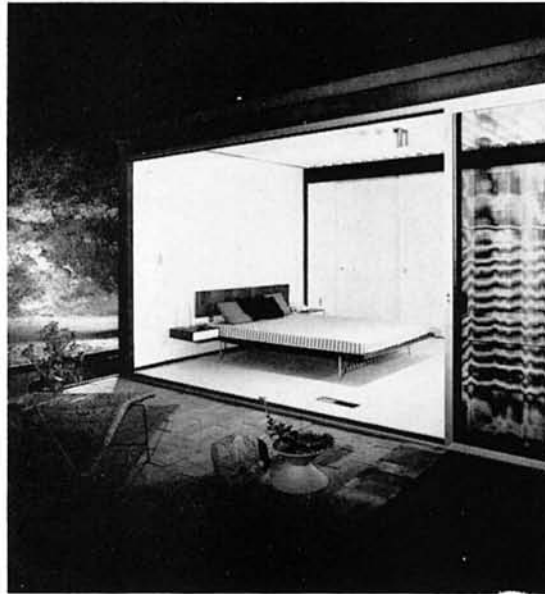
Traffic areas are defined with pure white Robbins vinyl floor tile. The furniture is arranged on white wool carpeting. The white vinyl flooring is used throughout the kitchen. The kitchen is large enough to accommodate a dining table and serves as a combination family room and dining area. There is direct access from the kitchen to the carport. Traffic circulation plays an important part in the overall design of the project. There is complete circulation through the central core unit which is an island within the house. Access to baths is possible through either bedroom and the interior patio; access to the patio is possible directly from the bedrooms or



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1. ENTRY WITH LIVING AREA BEYOND. RAIN WATER FLOWS FROM SCUPPERS INTO POOL AT THE LEFT

2. WALL OF BELLEVUE STEEL FRAME SLIDING GLASS DOORS FLOWS UNINTERRUPTED FROM LIVING AREA TO MASTER BEDROOM

3. BEDROOM AT NIGHT WITH SLIDING DOOR AND SCREEN OPEN.

4. CENTRAL COURT WITH POOL AND SPRAY. FLOORS AND WALLS ARE MOSAIC TILE UNGLAZED CERAMIC TILE.

5. ENTRANCE LOOKING TOWARD FRONT DOOR. A TEN-FOOT HI-FI CABINET CONTAINS A COMPLETE STEREOGRAPHIC HI-FIDELITY SYSTEM USING A HARMON-KARDON TUNER, AMPLIFIER AND PRE-AMPLIFIER; A VIKING TAPE DECK; A GARRARD RECORD CHANGER; AND ELECTRO-VOICE LOUDSPEAKERS

6. CONVERSATION AREA IS ARRANGED ON WHITE CARPET FROM AETNA FLOOR COVERINGS. WITH TRAFFIC AREAS OF PURE WHITE ROBBINS VINYL TILE

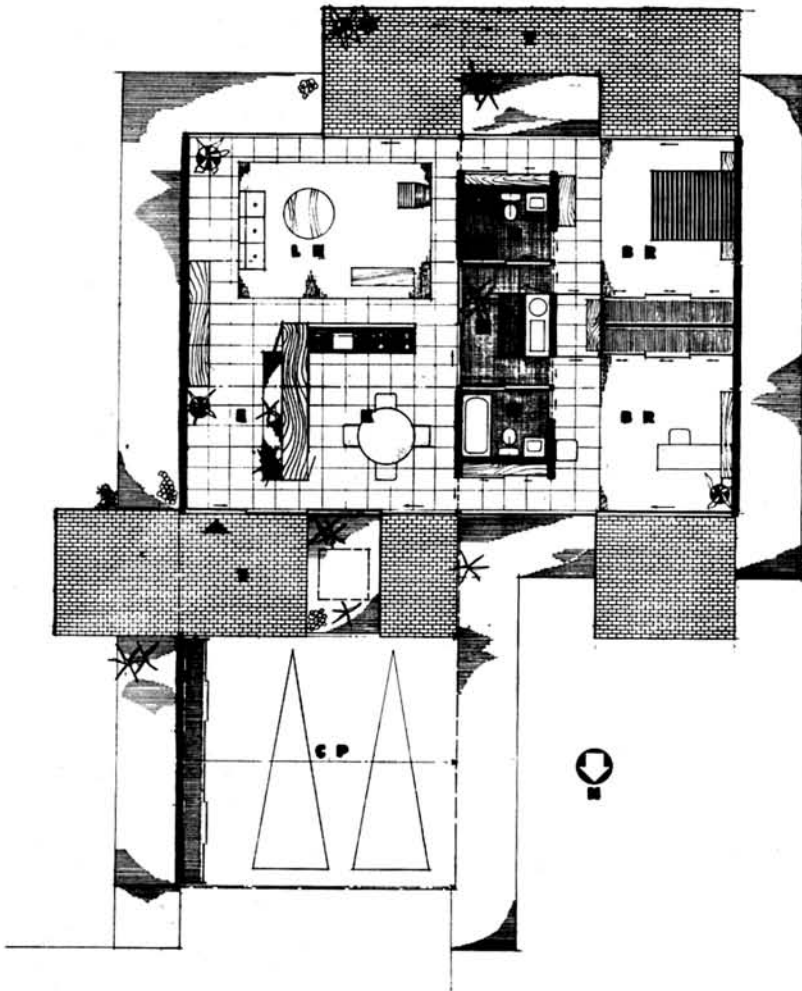
7. LIVING AREA. THE FURNITURE IS BY S M FURNITURE COMPANY



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the living room, with the two bedrooms being accessible to each other by a passage adjacent to the storage wall. One of the Glide-all doors in each bedroom closes this passage so that an unbroken plane of sliding doors is all that is visible from the bedrooms.

The water heater and forced air furnace are located in a cabinet in the central court for ventilation and sound control. As this court is open to the sky, sounds are not trapped within the house. Heating ducts radiate out from the centrally located furnace to registers set at the base of all glass walls. Seismic forces and wind loads are resisted by rigid bents formed with 4" channels welded to the top and near the base of the columns. These channels run continuously around the building to tie it together physically and visually. The sheet metal gutter is hidden behind the fascia channel, and the bottom edge of the steel wall deck is behind the base channel. Because the base plates are exposed, the anchor bolts are welded to the under side of the plates which in turn are bearing on concrete piers rising out of the water.

Electrical arc welding is used throughout for rigid and clean detailing. Wherever possible welds are ground smooth. To achieve maximum temperature control 1 1/2" of Owens-Corning high-efficiency glass fiber board is used over the roof deck with three layers of composition roofing and slag on top. With the roof and walls insulated with glass fiber board and sunscreens over the central court and over the south elevation, only a small amount of solar penetration is possible except during the winter months when the Koolshade screens allow a little filtered sunlight through. The sliding sunscreens can be opened or removed entirely if maximum penetration is desired in the winter.



←  
PORTION OF THE KITCHEN AND LIVING ROOM FROM THE  
CENTRAL COURT

KITCHEN—STAINLESS STEEL TOP OF GENERAL ELECTRIC  
KITCHEN CENTER AND PASS-THROUGH TO THE LIVING AREA  
→



KITCHEN PATIO AND POOL WITH CARPORT BEYOND



VIEW TOWARDS THE KITCHEN WITH WALNUT AND ALUMINUM TABLE BY S M FURNITURE COMPANY. DINING CHAIRS FROM THE HERMAN MILLER FURNITURE COMPANY

