

MINORU YAMASAKI'S

Northwood Apartments at the University of Michigan

by Dale Allen Gyure

People tend to think of Minoru Yamasaki as an architect of skyscrapers, particularly the World Trade Center. While it's true that he achieved fame through the design of tall buildings, Yamasaki created nearly as many apartment buildings as office towers, and before he turned to skyscrapers he was known as a talented designer of public housing. In the early 1950s he designed a number of apartment projects in Missouri and Michigan before being commissioned by the University of Michigan to produce a group of buildings for married students. Still in use, the Northwood Apartments I-III on the University of Michigan North Campus are little-known architecturally, but represent some of Yamasaki's most creative work in terms of working through variations on a building type.

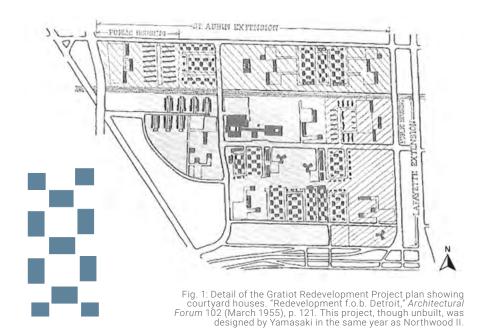
The Northwood story begins with Eero Saarinen and Associates' 1951 master plan for the university's North Campus. Within a few years of the initial publicity, the University of Michigan announced the architects for many of the new buildings, including Yamasaki's firm—Leinweber, Yamasaki and Hellmuth (LYH)—for married student housing. Yamasaki's selection probably had much to do with his personal relationship with Eero Saarinen. After Smith, Hinchman & Grylls lured Yamasaki from New York to Detroit in 1945, making him their chief designer, Yamasaki's personal connection with the younger Saarinen helped Smith, Hinchman gain the coveted role of associate architects for the General Motors Technical Center. By the early fifties the two men had been friends—and friendly rivals—for years.

Yamasaki and Public Housing

Beyond his association with Saarinen, Yamasaki was eminently qualified to design apartment buildings. He'd designed seven public housing developments in the four years prior to becoming involved with North Campus. In St. Louis alone, Hellmuth, Yamasaki and Leinweber (HYL), as the firm was known in that city, created nearly 5,000 housing units in three urban complexes with Yamasaki as lead designer. These weren't pleasant experiences, however, since much of the architect's time was spent fighting against federal housing restrictions and bureaucracy. Nevertheless, Yamasaki emerged from the St. Louis experience as a national spokesperson for multi-story housing, leading the fight against those who preferred low-rise rowhouses over towers; this also may be an early indication of his increasing interest in high-rise architecture. He also designed some smaller scale housing units for Michigan sites, including a scheme constructed in Benton Harbor, where he encountered more federal limitations on size, space, and materials.

In the era before public housing initiatives like Yamasaki's Pruitt-Igoe Apartments (1950-56) or Chicago's Robert Taylor Homes were uniformly vilified — when mass housing was viewed as a savior, not a creator, of urban problems — schemes like Yamasaki's demonstrated his facility with large-scale planning and construction while also displaying appropriate social concerns for a modernist architect beginning to move into the professional spotlight. For purposes of the University of Michigan, the public housing commissions showed Yamasaki's aptitude for designing large numbers of housing units in far more restricted and uninspiring circumstances than would be required of him in Ann Arbor.

Yamasaki's initial foray into multi-unit apartment design, the Cochran Gardens (1949-53) in St. Louis, garnered him a Gold Medal from the local AIA chapter and an Honorable Mention from the prestigious Architectural League of New York. He spoke at a real estate conventions, attended academic conferences, and published articles extolling the benefits of high-rise architecture. His Pruitt-Igoe Apartments were widely publicized and highly regarded. The smaller Benton Harbor apartments, consisting of ninety-four low-rent units in nineteen two-story buildings, also received coverage in *Progressive Architecture*, and represented the other end of Yamasaki's public housing work.² In all of these cases, however, continuing battles with government housing bureaucrats made designing these buildings a grueling and unwelcome experience. They may have inspired Yamasaki's withdrawal from mass housing design in the mid-fifties, after two final projects: the Gratiot Redevelopment Project and the University of Michigan Northwood Apartments.



Redeveloping Detroit

The same year that he designed the second group of apartments for the University of Michigan (Northwood II), Yamasaki worked with a team of outside architects on a Detroit redevelopment scheme that seems to have influenced the Ann Arbor design. Detroit's political leaders had high hopes for the "Gratiot site." an approximately rectangular piece of property less than a mile northeast of the Campus Martius intended to be the first great triumph of "urban renewal" in the city. But after razing a thriving African-American neighborhood, boosters were unable to find a developer to take it on. The land sat cleared and vacant for years before some private citizens, partly with the initiative and funding of United Automobile Workers president Walter Reuther, formed the non-profit Citizens' Redevelopment Committee (CRC) to stimulate the process in 1954. The CRC sought a racially integrated complex of middle- and upper-middle-class housing and hired the ad hoc firm of Minoru Yamasaki, Oscar Stonorov, and Victor Gruen (actually his associate Karl Van Leuven) to design a proposal for marketing to developers. Their scheme filled the plot with 4,500 units in various combinations of high- and low-rise buildings. They retained Detroit's gridded street plan but removed most of the through-streets, keeping density low by spreading clusters of courtyard houses throughout the site (Fig. 1). Also included were high-rise towers—generally gathered in threes around a plaza—and open fields for sports and recreation.

Yamasaki was proud of the Gratiot design and certain it would attract a developer. It did, but under unfortunate circumstances. In late November 1955, Yamasaki received a letter from Chicago developer Herbert S. Greenwald, who had spent the last few years funding a series of apartment buildings in that city designed by Ludwig Mies van der Rohe, including the much-lauded 860-880 Lake Shore Drive Apartments (1948-51). Greenwald's letter announced that he'd been hired by the CRC to develop the Gratiot site, and that Mies would soon be reviewing the maps and Yamasaki's drawings. In other words, Greenwald and Mies were taking over the Gratiot project just months after Yamasaki's team completed their study. They were certainly within their rights to do so, since the Yamasaki-Stonorov-Gruen design was exploratory and never intended to be a commission, but the missed opportunity must have hurt Yamasaki, particularly after the St. Louis public housing experience had been so distasteful. Greenwald's version would become Lafavette Park, the largest collection of Mies van der Rohe buildings in the world and a model of successful urban housing. Ironically, about a week after this notification from Greenwald, the journal Progressive Architecture awarded Yamasaki's Gratiot Redevelopment Project a "First Design Award;" and months later urbanist Jane Jacobs praised the Gratiot proposal at the First Harvard Urban Design Seminar.³ These gestures were likely of little consolation to Yamasaki after losing such a potentially high-profile design opportunity.

The Northwood Apartments and the Gratiot Redevelopment were the last times Yamasaki designed projects with mass living units as their raison d'être, if one doesn't count some later hotels and a handful of college dormitory buildings. After devoting half-a-decade to specializing in public-oriented buildings like apartments, schools, and single-family houses, Yamasaki began moving toward higher profile commissions for commerce, finance, and higher education.

Saarinen's North Campus

The University of Michigan married student apartments, named Northwood I, are listed in the LYH records for the first time in 1953. In the middle of that year an Architectural Forum article unveiled Saarinen's preliminary plans for North Campus, including a site plan and a photograph of a model, both featuring an extensive area of the property's northern section labelled "Married Student Housing." The model depicted groups of slab-like structures arranged to create a kind of dumbbell-shaped open space bordered by apartment buildings which were then surrounded by trees (Fig. 2). Except for their greater distances between buildings, these married student units were very similar to the undergraduate dormitories Saarinen envisioned for the new campus' western edge. Strangely, the model didn't match a reverse image site plan published three pages later. The plan featured a more extensive, numerous, and formal set of "Married Student Housing" slabs, assembled into small courts along a strict north-south alignment and bifurcated by Beal Avenue (Fig. 3). The article didn't explain the discrepancy, nor was Yamasaki's name mentioned. It's doubtful if Yamasaki had any input into this nascent design given the early date. Also, both the model and

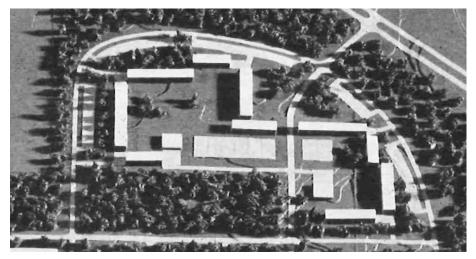




Fig. 2 (above): Model, married student housing area of Eero Saarinen plan for North Campus. "At the University of Michigan, An Answer to Expansion," *Architectural Forum* 98 (June 1953), p. 119. Saarinen's married housing schemes, seen also in Figs. 3, 8, and 9, may have influenced Yamasaki's final conception.

Fig. 3 (left): Detail of the married student housing area of Eero Saarinen plan for North Campus. "At the University of Michigan, An Answer to Expansion," p. 121.

the site plan versions of married housing at this early stage echo the shapes and rhythms of the other North Campus buildings, strengthening the case for attributing their design to Saarinen.

Thus the earliest published site studies for Northwood I are confusing. Upon closer examination it can be seen that the plan drawing published in the *Forum* article is close to what was built but not a perfect match, while the photographed model from the same article displays a different, unused version. Yamasaki's entry into the North Campus planning process might account for the variation.

LYH's final plans and specifications for Section I of the Northwood Apartments were presented to the university's Board of Regents in February 1954. Lynn W. Fry, the university's Supervising Architect, would oversee the estimated \$1 million project to create 100 housing units for married students and staff members. The Regents authorized the university to make a final application to the Housing and Home Finance Agency (HHFA) under Title IV of the Housing Act of 1950 (Public Law 475, 81st Cong.).

Postwar Enrollments

American higher education was challenged in the first two decades after the end of World War II as the combined effects of a population explosion, the GI Bill (which provided free college tuition to veterans), and changing social attitudes overtaxed existing facilities. One early 1950's education writer estimated that "Facilities which were in many cases considered inadequate for prewar enrollments of slightly more than a million students suddenly were required to serve more than two million." The University of Michigan's student population demonstrated this very clearly. The university's enrollment almost doubled in the three years following the war, and continued to grow steadily, except for the brief interlude of 1950-52, when many students served in the Korean War. And a surprisingly large percentage of those new students utilized the GI Bill. In 1950, for example, the university reported 27,858 students in residential credit programs (i.e., living on campus), of which 12,210-or 44 percent-were categorized as "veterans." Many of these war veterans enrolled as married students, reflecting a general trend visible across the decade. Statistics showed that by 1960 about 24 percent of the total college student population were married.⁷

The federal government's first move to stem the higher education housing crisis had been to initiate a campaign to re-use war surplus buildings for veterans and their families. By May 1948, the Public Housing Agency (PHA) had spent about \$160 million to dismantle, move, and reconstruct surplus buildings on college campuses, creating 75,000 dormitory units and 53,000 family units. Under the terms of their existing rules, the PHA financed only a portion of these endeavors, while the college had to pay almost half of the cost of creating dormitories and one-fifth the total for apartment units.⁸

These efforts, though substantial, proved inadequate. Educators successfully lobbied Congress for a new law, resulting in the enactment of Title IV to authorize federal loans to institutions of higher education for the purpose of creating new dormitories and apartments on college campuses rather than recycling existing structures. Loans totaling \$300 million were authorized to be administered by the HHFA, with the United States Office of Education acting in an advisory capacity. In an effort to stimulate construction, the government set interest rates on long-term bonds at less than 3 percent and allowed amortization to be extended over a forty-year period. In order to qualify the institution had to demonstrate that (a) comparable private financing wasn't available, and (b) the college or university engaged in the defense effort in some manner, including expanding an ROTC program, increasing curricula pertaining to "subjects related to defense needs," engagement in defense contracts, or a location in a critical defense housing area. The University of Michigan met all of these requirements.



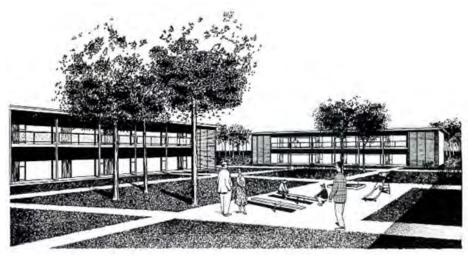
Fig. 4 (left): Northwood Apartments site plan; drawing revised from "Campus Housing in New and Varied Patterns," *Architectural Record* 120 (Aug. 1956), p. 191. Northwood I was prepared in 1953; Northwood II in 1954; Northwood III in 1955.

Fig. 5: Northwood I. Photograph by author, 2019.

Northwood I

The first set of apartments, called Northwood I, was planned for an area of about fourteen acres west of Beal Avenue and north of Hubbard Road. The Saarinen plan showed this section of the new campus, on a natural plateau north of the academic buildings, covered with slab buildings and interlocking courts to match the rest of the proposed North Campus buildings, and roughly echoing the dormitories intended for the opposite end of the campus. Saarinen had envisioned the married student housing as multi-storied rectangular slabs, with pairs of buildings forming a split L-shape arranged in triplets to create internal courtyards. Parking lots were pushed to the site's outer edges to keep the automobiles from penetrating too far into the housing areas.

Yamasaki adapted Saarinen's motif for Northwood I. He began with the site, which he described as "a very beautiful piece of land" with "lovely rolling contours and many beautiful trees." Seeking to "break away from the formal lines of the rest of the campus and create a somewhat less formal feeling in contrast," he borrowed Saarinen's multistory slabs for the main building blocks but reduced their size and number and added one or two small extensions to the ends of some. With this vocabulary of I-, L- and U- shaped buildings, Yamasaki was able to fulfill Saarinen's desire for a series of courtyard spaces (Figs. 4 and 9). He organized the six buildings in triplets; each group of three created an open quadrangle for lawn and trees as seen in the plan. Together the triplets created a zigzag courtyard of open space. Slightly offset, the buildings allowed interesting views through and beyond themselves while retaining the sense of enclosure (Fig. 5).





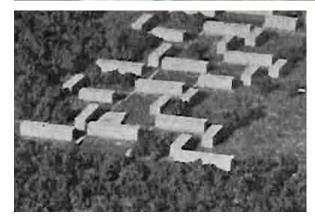


Fig. 6 (top): Early version of Northwood I, revised before construction. "The University of Michigan Outgrows Its Campus, Ann Arbor, Michigan," Architectural Record 117 (Jan. 1955), p. 133. These buildings aren't much different from the public housing apartments Yamasaki had been working on before the Northwood commission.

Fig. 7: Northwood I. Photograph by author, 2019.

Fig. 8 (bottom). Model, married student housing area of Eero Saarinen plan for North Campus. "The University of Michigan Outgrows Its Campus, Ann Arbor, Michigan," p. 132.

Northwood I made its debut on the national stage in a 1955 Architectural Record article on North Campus. Despite Yamasaki's efforts to avoid designing something that looked like public housing, the twostory apartment structures in these first published drawings look quite similar to Yamasaki's work in St. Louis (Fig. 6). Each building was a solid block with a long outdoor gallery running in front of the apartments and enclosed stairways at the ends. At some point before construction, design changes eliminated the galleries and end stairs. They were replaced by pass-through spaces with skeletal stairs and railings that helped open the buildings to the site. Each open stairway and landing served four apartments. Further alterations included minor changes to kitchen and bathroom locations in the one- and two bedroom units and the removal of what look like stuccoed gallery walls in the drawing (Fig. 7).¹¹

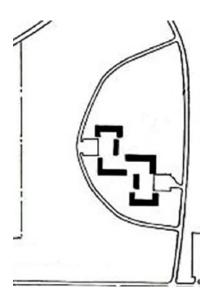
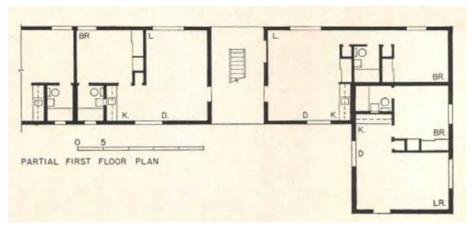


Fig. 9: Detail of married student housing area of Eero Saarinen plan for North Campus. "The University of Michigan Outgrows Its Campus, Ann Arbor, Michigan," p. 132. This diagram represents Northwood I, as built. See Fig. 10 for a partial floor plan

Despite being in a different journal from the 1953 North Campus article, this story's editors again frustrated readers with discordant images for Yamasaki's married student housing site. On the same page, the *Architectural Record* presented a photograph of a model that corresponds—at least in the married housing area—with the 1953 plan, and beneath it a site plan drawing that disagrees with the model above (Figs. 8-9). In this case the plan was again accurate, depicting the six structures of Northwood I as they were being built.

Upon completion, married students occupying Northwood I had a choice between one- or two-bedroom apartments, but the three kinds of buildings weren't the same inside. The L- and U-buildings were similar, with occupants entering their apartments via the pass-through stairs placed between each set of back-to-back units (Fig. 10). In some cases the rooms had rather generous proportions for mass housing (an 18' x 11'4" living room), but these were offset by predictably cramped spaces (a 3' x 5' kitchen). The I-buildings, however, held side-by-side, two-story, two-bedroom apartments. Plans show dining, living, and kitchen areas downstairs and bedrooms above (Fig. 11). Students living in the I-buildings walked directly into their units from ground level (Fig. 12). None of the buildings in Northwood I contained galleries or individual porches or balconies — all features of Yamasaki's public housing lauded by critics — and no awnings (or patios); these omissions marred the complex's sleek modernist lines.



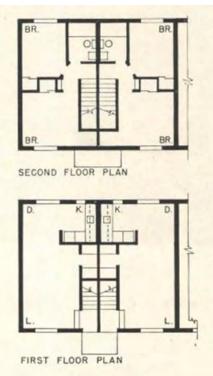




Fig. 10 (top): Typical floor plan, L- or U-building, Northwood I. "Campus Housing in New and Varied Patterns, *Architectural Record* 120 (Aug. 1956), p. 193.

Fig. 11 (left): Typical floor plan, I-building, Northwood II. "Campus Housing in New and Varied Patterns," p. 193.

Fig. 12 (right): I-buildings, Northwood I. Photograph by author, 2019. On the left is the rear of an I-building; on the right are the entries to another. These are slightly different from the I-buildings in Northwood I.

In keeping with the theme that dominates the Northwood commission, Yamasaki subtly varied the buildings of this first phase. Although the two L- and two U-shaped buildings are the same size, the two I-buildings differ, with one almost twenty feet longer than the other. Further, the I-buildings are slightly narrower, most likely to accommodate the two-story layout.

Northwood II

Yamasaki altered his approach for Northwood II, the second set of married-student apartment buildings. The site occupied about thirty acres just west and north of Northwood I and included the same rolling, partly wooded landscape as its predecessor, although north of Bishop Street the land was steeper than elsewhere (Figs. 4 and 21). LYH's architects were thinking of ways to achieve a better integration of building and site when the university requested that the next phase of construction be less expensive. In response, Yamasaki's team retained a few of the I-buildings but relied on a new type, a compact scheme made of four apartments back-to-back on two levels. These buildings' smaller scale allowed Yamasaki to weave open space through the site, in some places making informal courtyards in the same manner as the contemporary Gratiot Redevelopment Project (Fig. 13). He'd described the latter in words that could be equally applied to Northwood II: "most of the low buildings will face inward on sets of common play yards for children, a cellular type of neighborhood." 12

In the end, Yamasaki's Northwood II plan synthesized Northwood I and the Gratiot project, leading to the only heterogeneous portion of the married student complex. Northwood II's thirty-five apartment buildings partly envelop their predecessor on the site, occupying territory to the immediate west and north. For the northern part, Yamasaki duplicated one of Northwood I's triplets and settled it on slightly lower ground next to the existing two. Even here one can see a slight variation, as the Northwood II's triplet eliminated the L-building, using only one I- and two U-buildings. These U-buildings also were slightly longer and thinner than the earlier versions. North of Bishop Street and west of Cram Circle, Yamasaki used only this I-building type, placed along the street and following the contour.

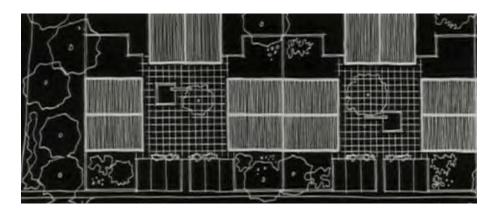
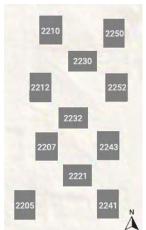


Fig. 13: "Six-Family Court Units," Gratiot Redevelopment Project. "Urban Neighborhood Redevelopment," *Progressive Architecture* 36 (Aug. 1955), p. 101. This more detailed diagram of the site plan that appears in Fig. 1.







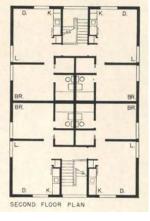


Fig. 14 (top left): Diagram of the central portion of Northwood II. Redrawn from MapWashtenaw (gisappsecure.ewashtenaw.org).

Fig. 15 (top right): Northwood II buildings. Photograph by author, 2019.

Fig. 16 (bottom left): Northwood II building with eight apartments. Photograph by author, 2019.

Fig. 17 (bottom right): Northwood II eightplex apartment building, second-floor plan. "Campus Housing in New and Varied Patterns," p. 193.

The bulk of Northwood II lies west of Northwood I and consists of twenty-one apartment buildings and five service structures, making almost 300 new units. This new area appears at first glance to be much less organized. However, an invisible grid pattern of north-south columns and east-west rows can be discerned upon closer examination of the plan (Fig. 14). The buildings are aligned in this grid, and they're also clustered into five-building groups resembling the face of a die, with four unattached buildings making a square and a fifth in the center. On the ground, however, one doesn't perceive any order to the arrangement—these buildings seem scattered among the trees, with the many sidewalks organizing the spaces more than the structures (Fig. 15).

Yamasaki had established an aesthetic language for Northwood I that relied on a nearly flat, overhanging roof and the visual contrast between brick wall planes and vertical window/spandrel strips of glass and light-colored metal. For Northwood II, he applied it again with additional borrowings from his contemporary houses in the Detroit suburbs. The eightplex buildings employed a slightly gabled, overhanging roof like Yamasaki's Abraham Becker house (1951) in Huntington Woods and offered more window area, since their design provided each apartment with windows in adjacent walls (Fig. 16). To further distinguish Northwood II from its predecessor, the architects used a slightly different colored brick.

The eightplex type called for a new entry system, so foyers are located at each end (Fig. 17). Residents entered their apartment from a foyer, marked by a wide vertical glass strip stretching from ground to roof (one of Yamasaki's favorite tendencies, visible in Wayne State University's McGregor Memorial Conference Center (1955-58)). Stairs led down a half-level to the first floor or up to the second. Inside were different configurations of one-bedroom apartments that tended to vary in the placement of the kitchen or the size of the bedroom.

Northwood III

By 1955, when Northwood I was finished, the full impact of higher education's enrollment crisis was being felt in Ann Arbor and elsewhere. In January the university asked the state legislature for \$12 million to cover a new expansion program to facilitate its recent growth, including \$9 million for new construction. Northwood II was part of that proposal. At the same time, the U.S. Office of Education outlined an immediate need for \$6 billion of construction to erase the persistent need for housing on college campuses. In an effort to help, Congress amended Title IV, which had proven extremely popular, to increase loan terms to fifty years, eliminate the need to search for comparable private financing, and lower interest rates to 2 3/4 percent maximum. In

While Northwood I and II added close to 400 new housing units for the university's married student population, it failed to stem the rising tide of enrollment, and the university pushed through plans for a third Northwood section. The Board of Regents authorized the sale of \$3.7 million in bonds for Northwood III during their October 1957 meeting. This final portion of married student housing would include 288 housing units: 144 one-bedroom units and 144 two-bedroom units.¹⁶

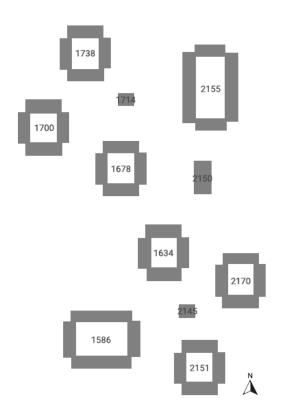




Fig. 18 (top): Diagram of the Northwood III site plan, Redrawn from MapWashtenaw (gisappsecure. ewashtenaw.org).

Fig. 19: Northwood III. Photograph by author, 2019

For Northwood III, Yamasaki devised another new form to join the I-, U- and L-buildings and the eightplex in the Northwood design vocabulary. All eight buildings are quadrangles four-sided, joined at the corners to enclose courtyards, and punctuated at their midpoints by pass-through stairways (Fig. 18). Like Northwood I the apartments were entered from the pass-through porch. Each side of the quadrangle had four apartments, two above and two below.

The buildings were organized into two groups in plan, each consisting of three square quadrangles next to a larger, rectangular quadrangle. In earlier versions all of the buildings were square, but at some point before construction two of the squares were elongated into rectangles; this may have been done to insert more units.

The plan's underlying grid pattern isn't as easy to discern in this section, but it exists. Although the structures occupy a grid in plan with approximately six east-west rows and eight north-south columns, the buildings are allowed to slip slightly outside their lanes to relieve some of the rigor that ordered Northwood II. Like Northwood II, however, none of these patterns are experienced on the site.



Fig. 20 and Fig. 6: Northwood III quadrangle, left; early version of Northwood I, right. Photograph by author, 2019. Comparison of these two images shows formal similarities between Yamasaki's first scheme and the final development of the project in Northwood III.

Outside the quadrangle walls Northwood III's landscape appears more spacious than its predecessors, although this may be due to a relative absence of trees on the site. Generous spacing of the quadrangles allowed Yamasaki to work with the edge of the natural plateau. Consequently, some of the quadrangles are physically lower in the landscape, forcing one to encounter the ground in a manner unlike Northwest I-II (Fig. 19).

The Northwood III quadrangles are perhaps the closest to Yamasaki's Gratiot idea of the "cellular neighborhood." The buildings themselves are minor modifications of the Northwood I work, but the quadrangle form makes a significant difference. In the Northwood III courtyards one finds the only spaces in the entire married student complex devoted to gathering. These cloister-like areas, strictly bounded yet porous, invite residents to interact and linger (Fig. 20). The other Northwood sections inspire movement rather than repose, and lack outdoor gathering spaces.

In this final phase, variation once more surfaces in different guises. The architects changed the brick colors again and removed the overhang from the roof. Unexpectedly, the building footprints reveal even more variety. The seemingly square courtyards aren't square in reality, and the two rectangular quadrangles are dissimilar in their length and width, with one at least twenty-five feet longer than the other.



Fig. 21: Northwood Apartments, looking south: Aerial views then and now. GoogleEarth

Conclusion

The initial design of all three sets of Northwood Married Student Apartments, including forty-nine apartment buildings of assorted sizes and nine service buildings, with an overall capacity of close to 700 units, was completed by the time Yamasaki's office reorganized itself in the summer of 1955. HYL/YHL officially disbanded, with George Hellmuth remaining in St. Louis, along with Yamasaki's chief assistant Gyo Obata, to form the internationally successful HOK. The other two-thirds of the partnership—now Yamasaki, Leinweber & Associates (YLA)—continued the Northwood work along with an increasingly ponderous workload attributable to Yamasaki's rising stature. By the end of 1956, he would move into the national spotlight after receiving an AIA Honor Award for the St. Louis-Lambert Airport (as HYL) and an AIA Merit Award for the Feld Medical Clinic in Detroit (as YLA) in the same year. He also published his first articles in major architectural journals. High-profile commissions from the New York and New Haven Railroad Company, Wayne State University (the McGregor Conference Center), the Reynolds Metals Company, the American Concrete Institute, and the

U.S. government (U.S. Consulate in Kobe, Japan), followed in rapid succession as Northwood was in the finishing stages. The apartments would mark the end of Yamasaki's "small-scale" work. In his future academic designs—at places like Harvard, Princeton, Oberlin, and Carleton College—he focused on salient academic buildings and shied away from housing, except for a few dormitories included in the Carleton master plan (1958-59). In a similar fashion, YLA began to eliminate public schools—once a mainstay of LYH—and single-family houses from its repertoire.

In the summer of 1956, the Architectural Record devoted an issue to "Multi-Family Housing," including an article of case studies recognizing standout projects for different clientele. Of these seven overall notable examples, Minoru Yamasaki had designed or co-designed four of them: the Northwood Apartments and three of the four public housing complexes credited to HOK (the other examples were a public housing group in Brooklyn and housing for married and single students at Purdue University). The Northwood coverage generally was standard fare, covering the somewhat lesser work of a rising architect and heavily reliant on correspondence between Yamasaki and Architectural Record editor Emerson Gobel. But it captured the essence of the architect's approach and the quality of the final work. "A beautiful site with gentle contours and large trees, which were saved, contributed heavily toward the final environment that the architects sought," wrote an unnamed author (probably Gobel). "Open sections for entrances and stairs break up the rows of apartments and provide a see-through openness, not to mention covered porches beside each apartment."17 The Record also noted the deliberate steps taken by Yamasaki to distinguish Northwood's three sections, not only in plan but in the buildings' physical appearance. It was a goal for Yamasaki in all of his mass housing experiments. The Pruitt-Igoe Apartments, for example, originally included low-rise townhouses along with tall towers before government restrictions forced drastic alterations, and Gratiot optimistically mixed single person courtyard houses, three-bedroom row houses, semi-detached houses with enclosed yards and commons, and fourbedroom single-family houses with its residential towers. Thus, at Northwood, "Exteriors were deliberately varied in fenestration as well as in brick colors, as part of the whole effort to avoid monotony."18

It's this diversity of accommodations that stands out at Northwood. Instead of hundreds of identical units, Yamasaki strove to offer unique experiences for the residents of the three sections, avoiding the "cookie cutter" mentality of reproducing one design for ease and profit. Not only do the buildings differ but their landscapes do as well. Each phase at Northwood has a unique density of trees that interacts with the architecture; for example, the most wooded area (Northwood II) contains small individual buildings while the least forested area (Northwood III) is the most communal in terms of building design.

Along with its variety, another strong feature of Northwood is this sensitive marriage of architecture and nature. The trees, which have proliferated since the complex first opened, now enhance the remote character of the site. (Fig. 21). At times the apartment complex seems far removed from the rest of the university, not just physically but psychologically. No other university buildings are in sight at Northwood. This quality hasn't always been appreciated by the residents. The Northwood Apartments are over sixty years old and still in use, although now filled with single students rather than married couples and families. Northwood I-II offers housing for graduate students while Northwood III has been reserved for the overflow from oversubscribed undergrad dormitories since 2004. Comments on apartment rating websites-usually by undergrads-tend to focus on aspects of Northwood's physical and social isolation, particularly the distances to classes or dining halls and the lack of common spaces compared to the dormitories. And of course there are issues with the buildings being generically "old." But many of the comments also applaud the apartments' guiet pastoral character. And therein lies its charm. Northwood isn't ideal by any means. The lack of outdoor gathering spaces in two of the three segments can be seen as a weakness. However, one should also consider its origins as apartment buildings for inward-focused couples-some of them older than the average student—who valued privacy perhaps more than young, single millennials who crave physical community alongside their extensive engagement with digital media. The postwar residents socialized in the service structures scattered throughout the apartments. Some of them had babies or young children. This was as close as they could get to the ever-popular dream of a single-family home while also pursuing an education. When Northwood opened in the fifties, it solved a desperate need for the university and provided a comfortable, slightly modern, slightly bucolic setting for young married couples, many in their first marital residence, including World War II veterans who may have appreciated the quiet elegance of Northwood more than today's undergraduates.

End Notes

- 1 Between 1949 and 1955, the firm had two offices and were known as HYL in St. Louis and LYH in Detroit. Yamasaki oversaw design for both, and the stress of commuting back and forth between jobs affected his health so adversely that he was hospitalized at the end of 1953.
- 2 "Two Housing Projects," Progressive Architecture 34 (Dec. 1953): 65-69.
- 3 "First Design Award, Urban Redevelopment, Detroit, Michigan," Progressive Architecture 37 (Jan. 1956): 76-77; Eric Paul Mumford, Designing Urban Design: CIAM Architects and the Formation of a Discipline, 1937-69 (New Haven: Yale University Press, 2009), 128.
- 4 "At the University of Michigan, An Answer to Expansion," Architectural Forum 98 (June 1953): 119, 121.
- 5 Richard G. Axt, The Federal Government and Financing Higher Education (New York: Columbia University Press, 1952), 136-137.
- 6 University of Michigan, Report of Statistical Service of the Registrar's Office 1949-1950 (Ann Arbor: University of Michigan, 1950), 4.
- $7\ Harold\ C.\ Riker, with\ Frank\ G.\ Lopez,\ College\ Students\ Live\ Here\ (New\ York:\ Educational\ Facilities\ Laboratories,\ 1961),\ n.p.$
- 8 Axt, The Federal Government and Financing Higher Education, 136-137. The HHFA, which was the agency with authority over college housing, included both the PHA and the FHA from 1947-1965.

- 9 "Colleges Vie for Federal Fund to Finance Dormitories at Under-the Market Interest," Architectural Forum 96 (June 1952): 53.
- 10 Minoru Yamasaki to Emerson Gobel, 11 June 1956, Box 4, Folder 17, Minoru Yamasaki Papers, Walter P. Reuther Library, Wayne State University.
- 11 "The University of Michigan Outgrows Its Campus, Ann Arbor, Michigan," Architectural Record 117 (Jan. 1955): 132-138.
- 12 "Redevelopment f.o.b. Detroit," Architectural Forum 102 (March 1955): 121.
- 13 There were numerous small service structures throughout Northwood containing community rooms and laundry areas.
- 14 "The University of Michigan Outgrows Its Campus." 134.
- 15 "Colleges Rush to Apply for 2 $\frac{1}{2}$ % Loans Under Greatly Liberalized HHFA Program," Architectural Forum 103 (Nov. 1955): 13.
- 16 University of Michigan, Proceedings of the Board of Regents of the University of Michigan (Ann Arbor: University of Michigan, 1957), 264.
- 17 "Campus Housing in New and Varied Patterns, Architectural Record 120 (Aug. 1956): 193.

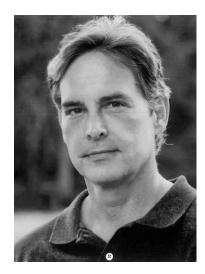
18 Ibid, 195.

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