

Noji Gardens in Full Bloom



The Industry's First Duplex Homes Debut in Seattle

By Steve Hullibarger

SEATTLE'S POPULAR NOJI GARDENS HAS ENJOYED A VERY GOOD YEAR since opening in mid 2000. Noji Gardens is being developed by HomeSight, a non-profit community development corporation, which primarily serves the Central, Southeast, Duwamish and Delridge neighborhoods of Seattle. HomeSight's application of diligence and persistence in a number of challenging areas is yielding a bountiful harvest for its home buyers.

Along the way, HomeSight has introduced a new element into the modern mixture of manufactured homes — the two-story single-family attached home. Sure to become widely adapted for use in other urban locales across the country, this building is composed of four sections. They seamlessly integrate into one attractive building adorned with a massive front porch spanning the two residences. HomeSight plowed new earth in navigating a myriad of construction challenges and code interpretations. The result is very impressive.

In another departure from customary practice, Noji Gardens has a mixture of site-built and manufactured homes. Of the 42 homes already completed, 26 are manufactured and 16 are site-built. At present, only six homes remain unsold. To finish the project, HomeSight will construct 17 more manufactured homes and eight site-built homes, for a project total of 67 dwellings.

The homes have successfully sold for between \$170,000 and \$200,000. These prices are well below Seattle's median prices and give the new homeowners almost instant equity.

Dorothy Lengyel, HomeSight's executive director, and Tony To, its deputy director, have found a large national interest in what they are doing in Seattle. Besides enjoying the spotlight from an inquisitive press, they have made numerous personal presentations to interested groups to describe their pioneering manufactured housing development.

Design Breakthroughs

Seattle architect John McLaren provided invaluable assistance to HomeSight in matching the appearance standards of the homes to the expectations and even the needs of the neighborhood design review boards. "Seattle, like most urban centers in America, is different from rural and most suburban districts," McLaren says.

These community groups have far more involvement in land-use decisions than would be found in non-urban places. In Seattle, there are five design review boards spread around the city. They have a powerful voice in approving exterior treatments, including material selections. Failure to listen to and work with these citizen groups can prevent a project from moving forward.

McLaren suggests that a number of New Urbanist elements which appear in the Noji Gardens homes could be starting points for increased manufactured housing industry participation in other developments which focus on these concepts. McLaren noted that when builders, including manufacturers, move their operations into the more highly urbanized metropolitan areas across the country, they will encounter a higher awareness of New Urbanist thinking among citizens and city planners. Efforts to bridge old design gaps will pay off in a greater acceptance of manufactured homes.

Further, McLaren states, any manufacturing techniques that could leverage the industry's natural advantages in less-wasteful construction methods, including the adoption of sustainable or "green" building principles, would find ready and welcome markets in the cities.

The Debut of Attached Homes

Marlette Homes, a subsidiary of Oakwood Homes, Inc., has built all of the Noji Gardens manufactured homes. Once Marlette obtained approval from HUD in December 2000 to proceed with the single-family attached homes on a pilot basis, two new models were introduced.

Model HS-3 places a module measuring 15'-10" by 45" atop another section



The original Noji detached manufactured homes have proven to be a tremendous success.

ERIC ALEXANDER



The Noji Gardens dedication in June 2001 drew an enthusiastic crowd and included dignitaries such as Seattle Mayor Paul Schell and King County Executive Ron Sims.

of the same size, for a total living area of 1,425 square feet. In addition to the first floor living space, the home's steel frame extends another 6'-6" to support a factory-built front porch. The plan has three bedrooms and a full bath upstairs. On the lower level are the kitchen, living room, dining area, laundry room and a powder room (1/2 bath). Access to the adjacent site-built one-car garage is through a door directly from the laundry.

The second plan, Model HS-5, comprises an upper floor, 15'-10" wide by 43' long located above the first floor, which measures the same width by 38' long, plus an integrated, factory-built five-foot porch. In this configuration, the living area on the upper floor actually overhangs the lower living area by the five feet of porch. The total living area in the HS-5 is 1,283 square feet. Three bedrooms and a full bath are on the second floor. The laundry facilities in this smaller house are in a "bonus room," which HomeSight

builds as part of the garage. The kitchen, living room, dining room and half bath are inside the manufactured home's ground level.

The placement of mirror imaged layouts with a firewall separation results in what is ostensibly a two-family dwelling (duplex), but in actuality is two HUD-Code homes on a single foundation. The resulting visual impression, including the mass and proportions of the building, is far from what a person might guess to be a manufactured home.

Each dwelling unit is self-contained, with a separate HVAC system and individually metered water, electric and gas utilities. Each owner takes title to their half of the building, with the property line running through the middle of the mating wall.

Supporting Roles

To a casual observer, the foundations underneath the homes may appear to be overly massive. However, due to several factors substantial support for the homes was necessary. HomeSight exported approximately 5,000 cubic yards of soil from the property in order to get down to relatively firm ground. Even so, the site is not blessed with high soil bearing capaci-

ties. There is some loose organic material, a small underground stream and wetlands on the southerly portion of the original nursery land on which the development is located. Moreover, Seattle is in a high seismic risk zone.

Deep excavation and thick concrete walls offset these disadvantages and give the two-story homes solid support. Footing depths range from 48 to 60 inches. HomeSight uses 8"-thick foundation walls, which can yield the same support values as 6" walls, but with less reinforcing steel than a 6" wall would need. HomeSight saves money by reducing the amount of reinforcement versus reducing the amount of concrete. At the mating line where the two single-family homes join, HomeSight pours a 16-inch-thick wall.

Concrete pockets and pilasters are formed into the foundation, which will receive steel cross-girders. In turn, these girders provide the needed support for the manufactured home chassis beams. The excavated area under the home is not filled in.

In an unfortunate nod to older modes of thought about manufactured homes as movable dwellings, HomeSight was required by HUD to add a few costly features to their foundations and attachment

methods. The twin foundation design was made to be sufficient to support each home in the event the sister house *and its foundation* were ever to be picked up and moved by its owner. Additionally, thick steel shear straps are mounted on the front end of each home and bolted to the foundation. The theory is that, again, if one owner decided to leave with their house, the remaining house would be unaffected.

Obviously, as HomeSight has learned, there is still a need to stamp out old stereotypes and finally acknowledge that few manufactured homes are ever moved once they are sited. That certainly applies here, where these homes are permanent fixtures upon their lots.

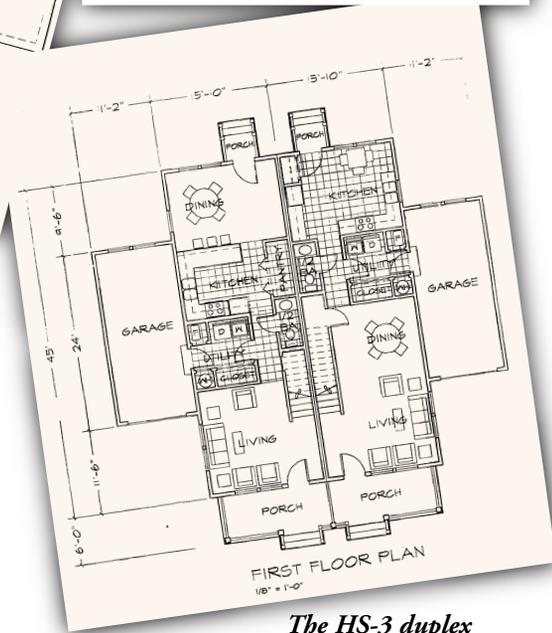
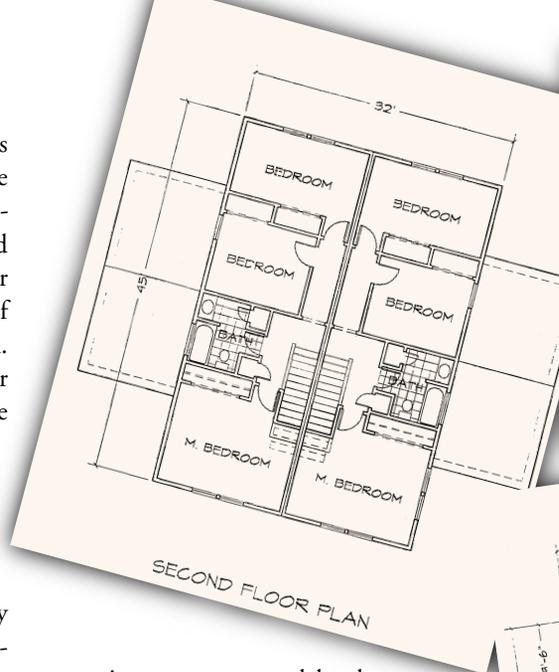
Getting There

When builders and developers first begin to use manufactured homes in their communities, they come face to face with an element not usually considered in site-built home construction: moving the houses. Tony To relates the complicated series of conditions and ever-changing city requirements with which he was forced to deal.

At first, the city of Seattle only permitted the 15'-10"-wide Marlette home sections to move within the city limits between the hours of 5:00 a.m. and 6:30 a.m. on weekdays. Then, To was informed that the time window was changed to 3:00 a.m. to 5:00 a.m. on Sunday mornings, and only three homes per week could be brought in. Next, because of a desire to reduce employee overtime, the city limited the three homes per week to all three on Sunday only. After more changes, the city has settled on allowing the Noji homes to travel through the city at any time during the week, except for the morning and afternoon commute hours. And no homes may be moved during certain hours surrounding the annual boat show.

Tony advises developers to investigate fully the transportation questions prior to any other scheduling decisions.

The total transportation cost for each two-section home is \$3,400 from the Marlette plant in Hermiston, Ore. to Noji's site. This takes freight, insurance,



permits, escort cars and local hurdles into account, over a total distance of about 250 miles.

HomeSight's Evaluation

Offering constructive suggestions for the manufacturers, To commented on the helpfulness of using standard building industry materials. He says that some repair and replacement items just can't be found in local building supply outlets, and he must order them directly from the home manufacturer. This is most often the case with finish hardware. While admittedly a minor nuisance, it nevertheless is something for the factories to consider.

With the advent of the new single-family attached models, HomeSight has not made much progress in cutting the on-site finishing time for each manufactured home. However, part of the equation may lie in the fact that they are doing more homes at one time, and much of the work is being done concurrently. This can add to the total construction time, but may result in almost all of the completions occurring at one time. Nevertheless, To is confident that the manufactured home process cuts about two months off the time it would take him to build the same homes on site.

In To's opinion, HomeSight is achieving the benefits they were hoping for by utilizing manufactured housing in lieu of on-site building methods. "Manufactured housing has allowed us to offer the quality we always have, at prices below the

The HS-3 duplex model floor plan and exterior.

market," he said. "We are still saving money, despite the increased complexity of our houses, the long shipping distance, and the amount of site-added finishing touches we do."

HomeSight has plans for other manufactured home developments, capitalizing on what they've learned. Already, Snohomish County to the north is in their sights.

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