Changing Perceptions on Modular Housing Northcountry Cooperative Foundation



Manufactured Homes Background

Manufactured homes (also known over time as prefabricated homes, mobile homes, trailers, modular homes, etc.) are a significant piece in the puzzling and elusive endeavor to find solutions to affordable housing availability. Manufactured homes are homes that are built in a controlled environment off-site then shipped to the site where they are installed or placed. Because they are transported like trailers they fall under strictly binding regulations for size (height, length and width). For our exploration we were directed to Schult Homes of Redwood Falls, MN. Their products are well-built and fit into the predominantly two-bedroom and one-bedroom demand NCF sees from their clients.

Master Planning

To counteract the perception that manufactured homes are somehow "undesirable" we first had to reflect on the causes of that widely held opinion. In looking closer, there were several keys areas we identified: Scale / Density Finished Look

Standards that Convey Stability

Scale / Density When you look at a traditional residential neighborhood, the regularity of it stands out: Uniform front yard setbacks (usually 30-ft), Uniform building heights (often 1 ¹/₂ or 2 story), Somewhat uniform roof slopes, Uniform spacing of homes A predictable rhythm as you drive or walk down a street



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Northcountry Cooperative Foundation is a 501(c)3 nonprofit organization founded in 1999 in Minneapolis, Minnesota. Our mission is to: "transform lives and communities through cooperative enterprise."

Team 1 Northcountry Cooperative Foundation

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Finished Look

The materials used usually resonate with permanence and durability: Some form of standard siding, brick, or stucco Manicured lawns with trees and/or other plantings Porches to encourage interaction with neighbors Sidewalks to encourage walking, interaction, and safety

Standards that Convey Stability Fences are limited to a maximum height

Yards and sidewalks are expected to be maintained (mowed, raked, shoveled) Plantings are pruned away from sidewalks and buildings Trash is kept in receptacles and collected regularly On-street parking is neat and orderly

It is with this backdrop that we sat down to masterplan various prototypical sites located in: An Urban Setting - we chose Minneapolis' typical city block with 108-ft deep lots. A Suburban Setting - we chose an open site in Plymouth, MN. A Rural Setting - we chose an open site that is large enough to accommodate 40 units with street grids extended through it.



Urban Concept



ARIAL VIEW LOOKING WEST

The typical 50-ft x 108-ft lot is a mainstay of the urban fabric of Minneapolis. These blocks are organized around standard lot sizes of approximately 5,400 square feet. Blocks often are dissected at their center with an alley that provides access to garages at the back of the lot. We looked at various ways of reconstituting the city block into garden-centric lots that are organized around a central, two-building community center/storm shelter. Surrounded by community park lands, these community centerpieces become a focal point for the neighborhood's life and activities

We looked at the 50-ft standard lot width and experimented with narrowing it to 30-ft or 45-ft and how that impacted the feel of the units and their density. Then moved to a 30-ft lot width forced a stacking of the garage and living unit into one linear form. This narrowness required that every third lot be an open lot for play and gardening, otherwise comparisons to sardines begin. Alternatively the 45-ft lot option captures that extra lot and divides it evenly between two lots allowing the garages to be disconnected from the living unit and pulled farther away from the alley to accommodate off-street parking in addition to the garage stall.

- (1) FIRE PIT
- **2** ACTIVITY CENTER
- (3) LEARNING CENTER
- (4) COMMUNICATIONS TOWER/ LANDMARK
- **5** PLAYGROUND
- (6) OPEN PLAY SPACE
- **(7)** COMMUNITY GARDEN
- 8 ALLEY
- (9) CALVALCADE PATH







WEST ELEVATION

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Modular Styles **Up-Close**

The idea of rhythm takes on new meaning as the rhythm becomes more of a larger repeating pattern. Low slope roofs on standard manufactured homes are pitched higher to allow for solar panel installation (optimized at a 5:12 roof pitch). Gardens flow throughout the development no longer restricted to just front yards or just back yards. Scale and density are 40-units per block. becomes a walkway away from traffic and two new alleys with the central walkway divide the block into fourths adding easy accessibility.

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 Λ CALVALCADE PATH

The shorter homes cast shorter shadows for the adjacent gardens. One central alley becomes a walkway away from traffic and two new alleys with the central walkway divide the block into fourths adding easy accessibility.



VIEW FROM SOUTH EAST CORNER



ALLEY VIEW



Suburban Concept

Bird's Eye View



lower right corner of the ring drive while the lower left has a playground and park shelter.

A looping walking trail can also be included to allow residents and their families to exercise away from traffic and allow them to more fully enjoy the open green space. The perimeter of this proposal provides for ample open space for neighborhood or neighboring children to engage in a friendly soccer, touch football or other large muscle sports activities.

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Interior perspective: Community Center/Storm Shelter

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Plan View



To fit in with surrounding developments, ample space was given on the perimeter of the property for trees and other plantings. The site plan shows 35 one-bedroom and 12 two-bedroom manufactured homes for a total of 47. These lots are sized 40-ft x 80-ft for the one-bedroom models and 40-ft x 101ft for the two-bedroom models. This equals lots that are 3,200 square feet or 4,141 square feet which are 59% or 77% of the larger Minneapolis standard lot. The smaller lot size even in a suburban locale allows for more green space in the hopes of making the proposal more palatable for neighbors.





Rural Concept



The last exploration is for a rural setting. In many ways the rural setting is the most challenging due to the character of rural cities as having difficulty accepting change or new, non-traditional ideas. This concept is the most scalable for that reason. By scalable we mean that it is able to be scaled up or down. Each component of four units can be an independent element so, while this layout shows 10 modules of four units totalling 40, any increment of four would work.

Notice that within one module there are four different lot shapes but they all are approximately 5,400 square feet (the same as Minneapolis' standard lot). This square footage number can be adjusted based on the standards and norms found in that particular city. Suffice it to say that this scheme has a great deal of flexibility to accommodate a wide variety of conditions that will be encountered.

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Bird's Eye View





Plan View

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One of the main features of this concept is the central "village green" where you find the community center/storm shelter as well as off-street parking and large open recreation space. An on-site retention or detention pond could also be located here for dealing with stormwater runoff to be released to the stormwater system slowly to enable better water accommodation in a major event. The side of the village green opposite the community center is an area devoted to garden plots for the neighborhood. We calculated that this much area could support 40 people for a full year, so that size seems appropriate. Another distinguishing feature of this concept is the overlaid road and alley grid. The two-way, wider roads allow for easy access through the development while the one-way alleys allow access to the garages.

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Lot Size Comparison

Urban Concept



Two-Bedroom Model 50-ft x 108-ft lot

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