

## CHAPTER THREE

The design of a good neighborhood depends upon meeting the needs of the people who will live there and fitting the neighborhood into the context of the local community. In Chapter Two we examined the components of good design that meet the needs of the residents and surrounding homeowners. But how do these fit together to create a neighborhood? This chapter looks at two case studies, one dealing with local codes concerning manufactured housing developments and one looking at some new developments across the country. Then three typologies are introduced. The first examines the typical lower cost manufactured house. The second examines ways of siting these houses on a lot. The third looks at how the lots go together to create the basic neighborhood element of a block.

### 3.1 Case Study 1 – Manufactured Housing Developments

With the increased cost of site-built housing in the United States, manufactured housing has become an increasingly attractive alternative for many people desiring home ownership. The increased demand for manufactured housing has created a corresponding increase in demand for manufactured home developments.

This section examines current trends in manufactured housing developments at thirteen sites across the United States. (Table 3.1) Nine of the developments are land/lease developments where the homeowners purchase their home, but rent the land upon which it sits. Of the remaining four, one is a fee simple development where the homeowner purchases their lot and then pays a monthly maintenance fee, similar to a condominium. The other three are similar to site-built developments, the owner buys both the lot and the house and there are no community fees.

The study examined several questions:

- How do the manufactured homes compare with the median price of site-built homes for the area?
- How did site-built add-ons affect affordability?
- How did community amenities such as swimming pools and green spaces affect affordability?
- Were homes purchased “off-the-lot” or were they especially designed for the developer?
  
- How do the manufactured homes compare with the median price of site-built homes for the area?

The findings from this case study support the hypothesis that manufactured housing is less expensive than site built housing. The housing in this study ranges from nine

percent to ninety-six percent of the median price of site-built housing for the same area. The higher price ranges are represented by homes with costly site-built add-ons such as garages, second stories and large covered porches. They also tend to be homes on purchased lots and the lot price is included in the home price. The one anomaly in the study is Haley Ranch Estates in Poway, California. The price of the homes is only nine percent of the median price for new site-built housing because it is a government-subsidized development. The homeowners pay 30% of their family income for the homes and lot rent.

- How did site-built add-ons affect affordability?

Less costly add-ons include decks instead of porches, paved driveways and sidewalks leading to the house, vinyl siding, skirting instead of solid foundations, and carports instead of garages.

- How did community amenities such as swimming pools and green spaces affect affordability?

Other factors which seem to raise the price ratio are the developments’ amenities. Amenities include clubhouses, community centers, pools and spas, golf courses, natural areas such as woodlands and lakes, walking and biking trails, playgrounds, sport fields, fishing piers, boat docks and picnic spaces. In general, the

more amenities, the higher the lot rent. The exceptions seem to be where the amenities listed are natural features such as woodlands and lakes. Fee simple developments, where the homeowner also buys the lot are higher in price regardless of the amenities.

- Were homes purchased “off-the-lot” or were they especially designed for the developer?

Lot sizes in the study are comparable to traditional in-town housing lots. These small lots need careful site planning to be successful. Many of the developments addressed this consideration by having specially designed houses built for their communities. Most of these houses have moved the entrance to the gable end of the house, so that the house entrance faces the street. Others have built add-on porches to the side entrance, so that the porch runs out towards the street, giving the impression of a recessed front entry, rather than a side entrance. Fences have also been used to mark boundaries and give privacy between closely sited homes. All of the specially designed houses were in the west where housing prices are very high. Houses purchased from a dealer’s lot and moved to the site were more common in the Midwestern and eastern parts of the country.

This case study has allowed the author to compare the ways in which various designers have tackled the problem of

small lot developments. It has also served as a useful tool in deciding which amenities and add-on features can be used without driving up the cost of the lots and homes.

**Table 3.1 Manufactured Housing Developments Case Study**

Development Name	# of Acres	# of Lots	Density per Acre	Size of Lots/sq ft	Cost of Homes	Lot Rent Monthly	Median Price Site-built Home	House Description	Specially Built?	Site-built Add-ons	Development Amenities
Glenbrook	22.00	146	6.7	4000	\$76,000/ \$89,000	?	\$125,000	Double wide Ground set Front entry Low pitch roof	Yes	Garage or carport	?
Village of Rosa Vista	80.00	400	5.0	4000	\$50,000	?	?	Rear parking Front entry Neo-traditional	Yes	Stucco Wood shutters Front porch	?
Old Town Redevelopment	Infill	60	NA	4480	\$125,000/ \$145,000	Purchase	?	Double wide and duplexes Front entry Ground set	Yes	Garages	NA
Santiago Estates	168	800	4.75	4500	\$94,900/ \$113,900	?	\$250,000	Extended eaves, Med. pitch roof, Ground set Front entry	Yes	Garages	?
Haley Park Estates Poway, CA	15.70	65	4.0	4850	\$44,800	?	?	Double wide Med. pitch roofs Ground set	Yes	Garages Covered entries Wrought iron fences Tile roofs	Community center Play grounds RV lot
Laurel Courts Oakland, CA	1.74	30	17.5	2500	\$77,000/ \$91,000	?	\$150,000	Single/Double wides Low pitch roof Ground set Front entry Zero lot line	Yes	Garage Courtyards Fencing	Infill Government subsidized
Shelby West Michigan	99	461	4.65	4420	\$35,000/ \$65,000	?	?	Multi-section Low pitch roof Lap siding Shingle roofs	No	Landscaping	Entry signs Lake Wetlands Community center and pool

**Table 3.1 Manufactured Housing Developments Case Study** continued.

<b>Development Name</b>	<b># of Acres</b>	<b># of Lots</b>	<b>Density per Acre</b>	<b>Size of Lots/sq ft</b>	<b>Cost of Homes</b>	<b>Lot Rent Monthly</b>	<b>Median Price Site-built Home</b>	<b>House Description</b>	<b>Specially Built?</b>	<b>Site-built Add-ons</b>	<b>Development Amenities</b>
New Rancho Viego CA	108	270	2.5	5500	\$109,000/ \$152,900	?	?	Multi-section Concrete foundation Ground set	Yes	Stucco Side and rear fence Front porch	Open space Bike paths Tot lots Sports fields
Noji Gardens Portland, OR	6.5	75	12.0	5000	\$155,000/ \$225,000	Purchase	\$234,000	8/12 roof pitch Front entry 2- stories high Multi-sections	Yes	Garage with room above Vinyl siding	Infill
Riverwalk	?	339	?	15,000 minimum	\$35,000/ \$60,000	\$150/ \$225	?	Front gable and side gable entries Concrete footers	Yes, but close to basic	Skirting Gutters Decks Driveway Mailboxes	Lake Pier Dock Beach
Princeton Crossing Cincinnati, OH	77	372	5.7	4400/ 6000	\$29,000/ \$59,000	\$230/ \$250	\$125,000/ \$200,000	Front or side entries Low pitch roof Vinyl siding Shingle roof	No	Front steps or deck Walks Carports Skirting	Lake Community center
Sunny Creek Spokane, WA	20	90	4.5	4500	\$69,000/ \$119,000	\$200/ \$325	?	Front and side entries address street Ground set	Yes	Garage Concrete driveways and walks	Exercise path RV parking Nearby golf
Cloverleaf Estates	180	450	2.8	5500	\$49,000/ \$100,900	\$250/ \$280	?	Concrete slab	No	Brick wall Paved driveway Yard lamppost	Community center Guardhouse Walking trails

### 3.2 Case Study 2 – Virginia Municipal Codes Regarding Manufactured Homes

In researching the topic of manufactured housing, it became clear that many towns and cities use their municipal codes to segregate manufactured housing from site built housing, often restricting it to agricultural or industrial areas. (ACRBAH 1991, Hart, Rhodes and Morgan 2002, Ferris 2001) This study looks at nine municipal and county codes regarding manufactured homes in the Commonwealth of Virginia. (Table 3.2) The information was gathered from a web site which carries municipal and county codes from all across the United States. It can be found at <http://livepublish.municode.com>

Several of the codes state that manufactured housing is a needed affordable option for housing their citizens. Still, seven of the codes restrict manufactured housing to specially zoned areas, either manufactured housing zones or agricultural zones. Two of the codes, Charlottesville and Wytheville, equate manufactured housing with travel trailers, combining regulations for the two of them. Several codes still refer to mobile homes and trailers, rather than the legal term, manufactured housing.

Only Wytheville does not require a buffer around a manufactured home development. Buffers for the other seven codes range in size from five feet wide to

thirty feet wide. Some specify a screening fence or hedge. This buffer cannot consist of the yards of the homes; it must be a separate space. In Blacksburg, this buffer cannot be used as recreational open space.

Only two of the nine codes fail to recognize the importance of open space in higher density communities. Of the seven that do recognize this importance, four require the space to be determined by the number of housing units, usually a base amount and then additional space per housing unit. Three codes require open space based on a percentage of the total acreage in the development. The codes do not specify the use or design treatment of these spaces, but encourage both passive and active recreational spaces.

Street requirements vary widely from code to code. Some codes break requirements down by road classification. Collector roads are the largest at thirty-six feet; private roads are the smallest at sixteen feet. The road requirements are based upon common engineering standards for traffic capacity.

#### Conclusions

Though there is some mention of the importance of manufactured housing for low and moderate income families, the municipal and county codes reviewed here, show that manufactured housing is treated as less desirable than site-built housing.

The requirement of buffers to hide the developments from view, the reference in some codes to transience, and especially the segregation of manufactured homes by zoning from site built homes all help to keep the stigma attached to this housing alive.

Building a development using these local building codes as the only criteria would result in some fairly bleak neighborhoods, regardless of the house type. Rather than citing minimum lot sizes, more attention should be paid to the dimensions around the homes. While most codes call for open space within the neighborhood, more attention should be paid to the quality of that space rather than the quantity. It is clear from this study that many of these codes are out-dated and based on old stereotypes of travel trailers rather than the modern manufactured house. Planning departments in Virginia need to rethink how they handle manufactured housing.

**Table 3.2 Virginia Municipal Codes Regarding Manufactured Homes**

Location	Development size in acres Minimum	Minimum number of homes/acre	Maximum number of homes/acre	Build in special zoning only	Minimum lot size	Minimum lot width	Minimum setback	Minimum space between homes	Minimum number of parking spaces
Charlottesville	NA	10	12	Yes	3000 sq ft	30 ft	25 ft	15 ft	NA
Wythville	NA	NA	NA	No	4000 sq ft	50 ft	NA	20 ft	NA
Roanoke County	5	NA	7	Yes	4000 sq ft	40 ft	20 ft	26 ft	2/home
City of Roanoke	10	20	7	Yes	4000 sq ft	40 ft	NA	NA	2/home
Montgomery County	NA	NA	8	Yes	3000 sq ft	50 ft	10 ft	30 ft	2/home
Blacksburg	4	NA	NA	Yes	3800 sq ft singlewide 4600 sq ft doublewide	NA	10 ft	30 ft	2/home
Richmond	NA	NA	8	Yes	3000 sq ft	40 ft	15 ft	15 ft	NA
Salem	NA	NA	NA	No	1000 sq ft beyond home's footprint	30 ft	25 ft	15 ft	NA
Radford	2	10/acre	NA	Yes	3000 sq ft	30 ft	25 ft	15 ft	2/home

**Table 3.2 Virginia Municipal Codes Regarding Manufactured Homes** continued.

Location	Buffer required	Type of buffer	Size of buffer	Street width requirements	Open space requirements	Other specifications	Notes
Charlottesville	Yes	Fence or Hedge	Minimum of 7' high	36' wide with parking 22' wide without parking	5000 sq ft plus 250 sq ft for every 10 homes	NA	Lumped in with travel trailer parks
Wythville	No	NA	NA	16' wide	200 sq ft per home	NA	Lumped in with travel trailer parks
Roanoke County	Yes	NA	NA	28' with parking 20' without parking	8% of the gross area, minimum of 5000 sq ft	300 sq ft outdoor space plus 100' patio	Requires 300 cu ft for storage
City of Roanoke	Yes	Landscaped	Minimum of 10' wide and 6' high	NA	NA	Lots must be landscaped	NA
Montgomery County	Yes	Landscaped	Minimum of 15' wide	28' with parking 20' without parking	15% of net area	300 sq ft private outdoor space	NA
Blacksburg	Yes	Landscaped	Minimum of 30' wide	28' with parking 20' without parking	30% minimum of total acreage	NA	NA
Richmond	Yes	Fenced or landscaped	Minimum of 4.5' high	NA	NA	NA	NA
Salem	Yes	NA	5' wide	16' wide	200 sq ft per home	15-30 gallon garbage can	NA
Radford	NA	Opaque fence or landscaped	25' wide	24'	5000 sq ft plus 250 sq ft per acre	Paved streets Marked lot boundary	NA

### 3.3 House Typology

Manufactured housing covers a wide range of prices from a low of \$10,000 to over \$200,000. These prices buy vastly different styles and sizes of houses from a one-bedroom fishing cabin to a two-story, four-bedroom home with built-on garage. But what type of home fits the needs and finances of a working class buyer?

The houses viewed in this typology are examples of what can be found in both older and newer working class manufactured housing developments. The older homes are examples of the types of trailers and mobile homes that were available before 1976 and the HUD code. The newer models are typical of the homes that can be found at local manufactured home sales lots. They are sold at the lower end of the manufactured housing price range, for the most part less than \$50,000 in western Virginia.

### The Double-Section Homes

3.3.1 Front and side views of a small double-section home measuring twenty-four feet wide and fifty-six feet long. This home is built so that the front facade orients to the street, rather than the blank, gable end of the home. This style of home does not work well in a gable end-to-the-street orientation. Few homes larger than this will be placed in a working class housing development because of the cost of the larger homes.



3.3.2 This small double-section home is designed so that either the front facade or the gable end can orient to the street. But the design makes it clear that the longer facade is meant to be the main entrance to the house. This double orientation is unusual in a house bought from the available stock of a local dealer.





3.3.3 This older double-section home is designed so that the gable end of the home presents an acceptable facade to the street. By placing the front door close to the end it allows for a porch or deck that can be oriented to the street marking a clear entrance.



### The Single-Section Homes

3.3.4 This is a new 14' x 66' model. The home is built to orient the gable end to the street. The facade containing the front door is very plain with no strong focal point or ornamentation. With a site-built addition of a covered porch, this home's front facade could be altered to contain a strong focal point oriented towards the street.



3.3.5 This is a new 16' x 76' home. The shutters placed around the windows on both the front facade and the gable end, allow this home to be oriented with either facade to the street. The addition of more windows to the front facade would make this a stronger candidate for the front facade orienting to the street. The long facade of this home allows for the addition of a long porch or verandah. This would add visual interest to the streetscape.



3.3.6 Like the previous example, this is also a new 16' x 76' home. The addition of more shuttered windows along the front facade pulls the orientation of this home to the front.



3.3.7 The gable end of this 14' wide home is made more appealing as a street facade by the application of shutters to the window and the addition of carriage lanterns. The presence of the hauling hitch helps to perpetuate the idea of transience that is attached to these homes.



3.3.8 These older 12' and 14' wide homes were meant to be oriented gable end to the street. These are the types of homes that fill the older utilitarian style mobile home developments. Their front facades usually have little in the way of ornamentation or decorative detail as very little can be seen from the street when the home is situated in this manner. A large covered porch clearly marks the entrance to the bottom home.



### 3.3.9 Conclusions

These homes are a good representation of the house styles and sizes that are in most working class manufactured housing developments. They are the basic, low-end manufactured home, selling for under \$50,000. It is easy to identify these homes as manufactured housing by their distinctive appearance. They do not fit the character of most newer, site-built homes and are therefore easy targets of NIMBY. But there are ways to fit the homes more comfortably into a community which increases their “normalcy”. The two following typologies examine ways in which to site the homes at the lot and block levels using the research on resident needs and community acceptance in Chapter Two. The typologies use house 3.3.5 a 16' x 76' home and house 3.3.1 a house measuring 24' x 56'.

### 3.4 Lot Typology

The open space around a home serves many purposes. It delineates territory; it provides space for play, relaxation, display, socialization and storage. It provides a setting for the home and a barrier to the outside world.

The space around a home has been divided into 4 categories by Habraken (2000). This hierarchy consists of:

- Public space. This space is open to all residents who care to enter. Such spaces in a residential neighborhood would include the streets and any designated common areas such as parks, pathways and playgrounds.
- Semi-public space. This is territory claimed by the home's residents, but is a part of the public visual domain. Residents use these areas to scan, assess and interact with neighbors and strangers. In residential neighborhoods the front yard often serves this purpose. This is also the primary area for display gardens (Marcus, 1986) where a resident can not only display their personality, but use physical objects and designs to claim the territory. Claiming territory means controlling access of things or people into a space. These can be physical or psychological barriers. Where these barriers are not allowed or the boundaries are not clearly marked, residents often neglect to claim the territory. This usually results in negative aesthetics.
- Semi-private space. This is space where friends and family are greeted. It is the last barrier to the private interior or exterior space. At the front of the house, semi-private space is usually at the main entrance to the home, either the door, or a larger space such as a front porch. This can also be a gate into a private outdoor area such as a back yard.
- Private space is that space into which only friends and family are invited (service providers being the exception). This includes the interior of the home and in most

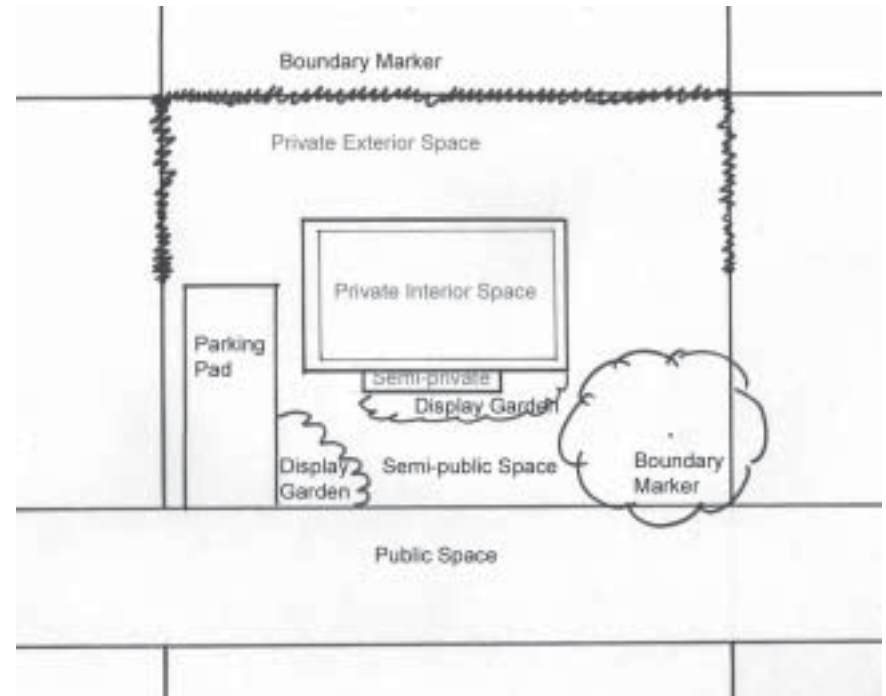


Figure 3.1 Diagram of house lot showing the hierarchy of spaces.

residential areas, the back yard. The degree of privacy achieved depends upon the presence and quality of boundaries and screening for the space. High walls, fences and hedges provide the most secure and private areas. But the space can be marked off as private without the use of objects which provide visual privacy. Low hedges, plant beds, and small wire fences can all delineate boundaries for the space.

Habraken (2000) claims that the semi-public area between the public space and the semi-private entrance space should be at least 5' to 6' wide to serve as an adequate barrier for the private interior of the home. Marcus, (1986) says the area needs to be large enough for the planting of display gardens, but small enough to allow working people the time to maintain the space. Private outdoor space needs to be large enough to allow for basic activities such as socializing, relaxing and playing. Marcus suggests that such a space be no smaller than 325 sq. ft (about 20' x 16') for families and slightly smaller for other types of dwellers. Play space for toddlers and small children should be visible from the kitchen and other work areas of the home.

The following typology applies this hierarchy of outdoor space to study three ways of siting the house on the lot with regard to its relationship to the street or public space. The siting of the house creates different qualities in the private, semi-private and semi-public spaces. Other factors which affect the quality of these spaces are the location of parked cars, the amount of space between the houses and the presence or absence of visual boundaries.

### 3.4.1 Definition of Terms Used

The following terms are used throughout the typology.

- Lot front – the end of the lot located closest to the street
- Lot back – the end of the lot located furthest from the street
- House front – the side of the house containing the main entrance
- House back – the side of the house opposite the front of the house
- Display gardens – allows resident to express their personality and lay claim to territory.
- Territoriality – defense of space against intrusion. Claiming territory encourages upkeep of the space by the owner.
- Openness – the perception of space that is not crowded or uncomfortably closed in.

### Blacksburg Municipal Code Requirements Used for Manufactured House Siting<sup>1</sup>

- 30' between houses placed front to back
- 20' between houses placed side to side
- Minimum front yard – 10'
- Must have at least two off-street parking spaces for each house
- Lot size requirements:
  - Under 19' wide – 3800 sq. ft.
  - 19' wide and over – 4800 sq. ft.

### House Sizes Used:

16' x 76'      and      24' x 54'

Two different house sizes are used in the lot typology. The choice is based on discussion with a community manager and his perceived need and desire for these sized houses in a low-cost development. Examples of these houses can be seen in the house typology, Chapter 3.3. The lot sizes will have to be adjusted

to fit larger and smaller houses. The dimensions of the space outside the home that are given will adjust easily and fit the lot size requirements in most instances. The exception is the gable end-to-street layout.

The typology is divided into three distinct styles. Both house sizes can be used for the three lot types with an adjustment of lot dimensions. The houses are placed at least thirty feet apart, ten feet more than is required by code, in order to create a higher quality outdoor space.

- Type One – the house is placed in a diagonal relationship to the street
- Type Two – the house is placed in a traditional, utilitarian mobile home layout with the gable end of the house addressing the street
- Type Three – this layout uses a more traditional suburban layout in that the front facade of the house faces the street across an open space or lawn

### **3.4.2 Type One House Placed Diagonally to the Street**

Common conditions in typology:

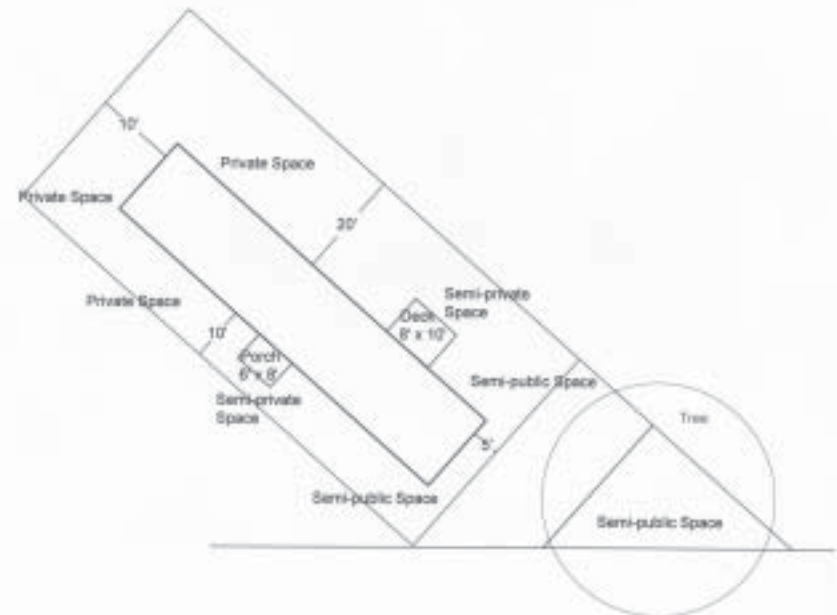
1. As long as the front entrance is located no further than halfway back along the front of the house, it will be easily visible from the street. This can increase sense of normalcy for suburban areas.
2. This layout creates the opportunity for a full range of space hierarchy, public to private.
3. Private space will depend heavily upon the use of fence or hedge barriers because of its location between the closely spaced houses. If each home has a barrier along the yard at the front of the house and the back of the lot, the barriers will form an interlocked system down the length of the block.
4. The triangle-shaped area at the front of the lot can be used to hold a street tree and other plantings. Planting this area would add variety and softness to the streetscape. It would also help to reduce the intrusion of the parked cars into the streetscape.
5. The front windows of the house will have an angled view of the street. If the parking spaces are screened and the triangle-shaped areas planted, this can result in a positive aesthetic view from the house.
6. Because of the location of the driveway, a five foot setback from the driveway gives plenty of separation from the street.
7. The parking area will allow three vehicles to park.
8. The angled parking area will make it difficult to park if the car is coming down the street from the opposing angle. The block must be laid out so that the houses/parking pads are placed to allow a driver traveling down the street to be

able to pull into the driveway without having to back in. This layout might work best in a one-way street system.

9. The ten feet of open space at the back of the house provides one-half of the twenty feet required between houses end-to-end.
10. Placement of the houses could be problematical on steep terrain.
11. This layout requires the most amount of lot acreage of the three layouts.

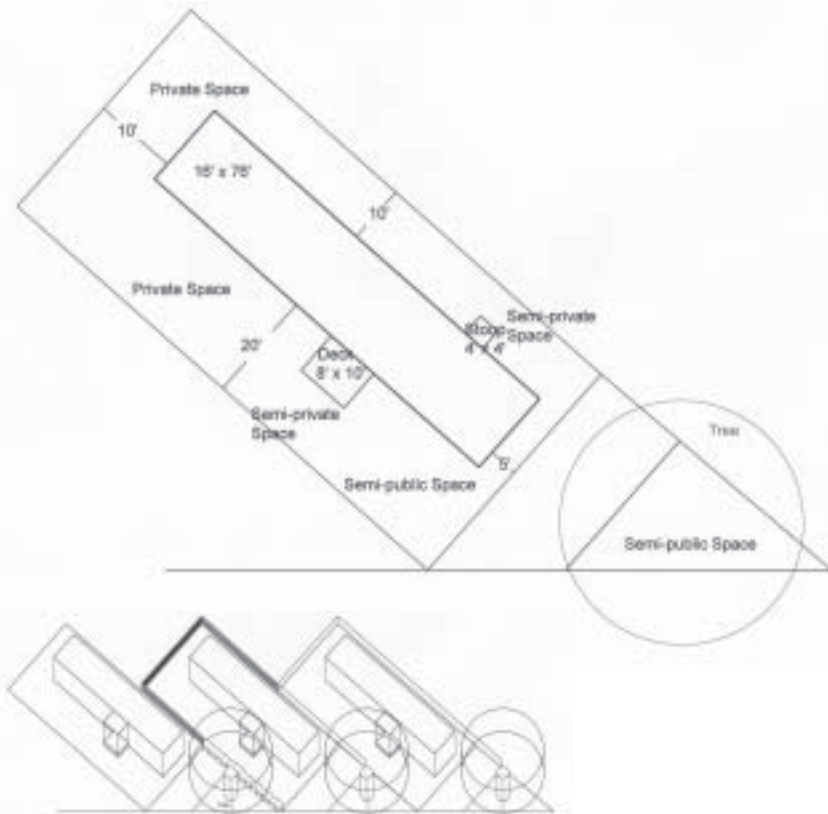
### Example 1.

1. This layout places the usable private outdoor space at the back of the house which is the suburban standard.
2. There is enough space at the front for a walkway to the entrance and some usable service space towards the back of the lot beyond the front porch. This could significantly reduce the aesthetics of the front entrance if not handled carefully.
3. Having the narrow space at the front of the house could result in a crowded, unwelcoming front entrance. Expanding the size of the front porch would make the space seem even more crowded and out of scale. In addition, the view out of the front windows is blocked by the barrier only ten feet away.
4. There is a small area at the front of the lot and along the front of the house for a display garden.
5. Service buildings and utilities can be located at the back of the lot.
6. The front door overlooks the neighbors' parked cars.



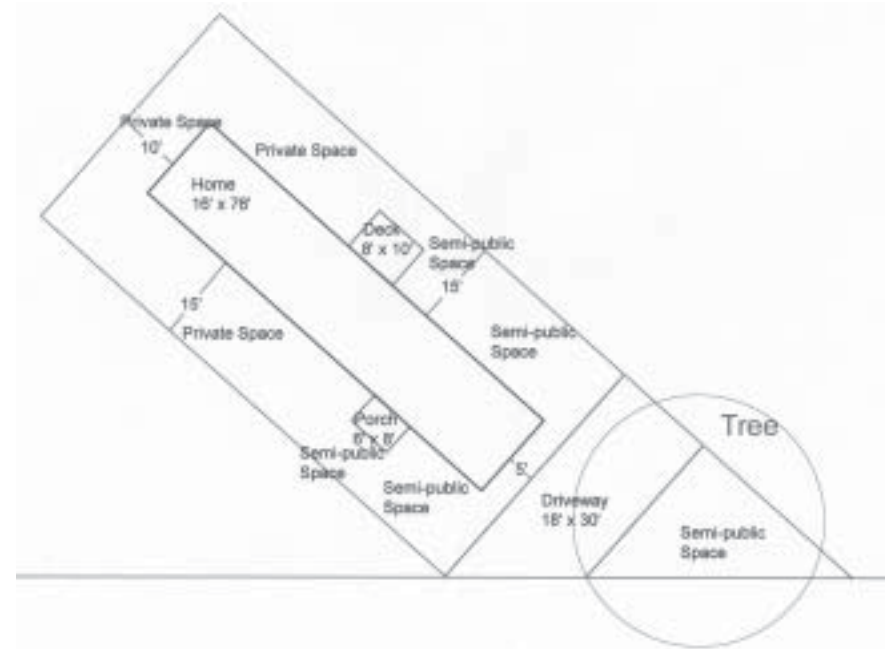
### Example 2.

1. The usable outdoor private space is located at the front of the house, between the front entrance and the back of the lot.
2. The ten foot wide space at the back of the house can be used as a service space. There is enough room for a small storage shed, trashcans, AC/Heat units, bicycles and other outdoor storage.
3. There is space for a respectably sized display garden between the front entrance and the driveway.
4. Since the private outdoor space is located at the front, the front entrance might attract “backyard” paraphernalia such as barbeque grills and children’s toys. A deck or patio area behind the front porch could address this.



### Example 3

1. In this layout, the placement of the house equally divides the front and back yard spaces. This provides a better setting for the front entrance than Example 1, but reduces the size of the usable outdoor private areas. Outdoor storage at the back of the house will reduce the usable space even more.
2. It is possible with this layout to have an expanded front porch and/or an enlarged back deck without overwhelming the space.
3. There is plenty of space at the front of the house for a display garden.





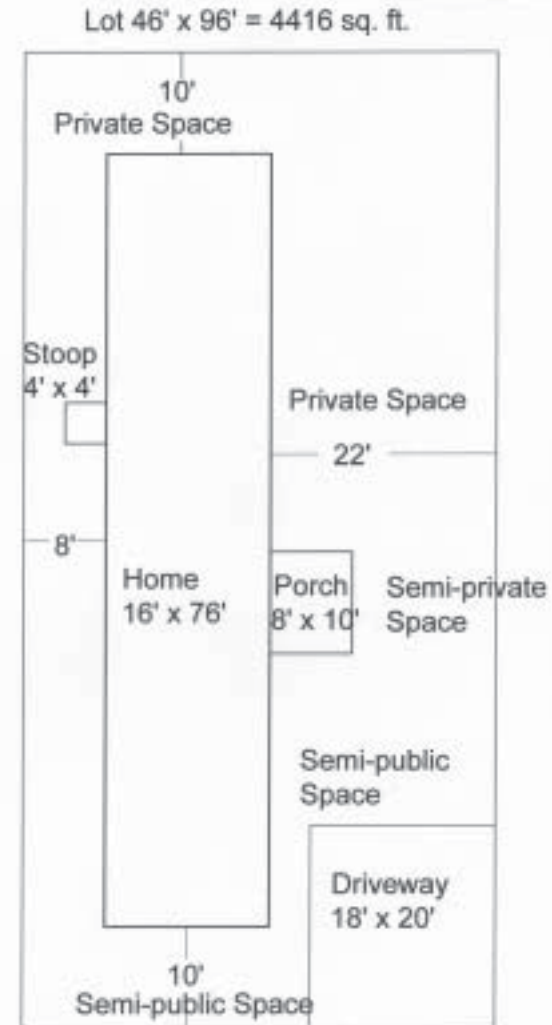
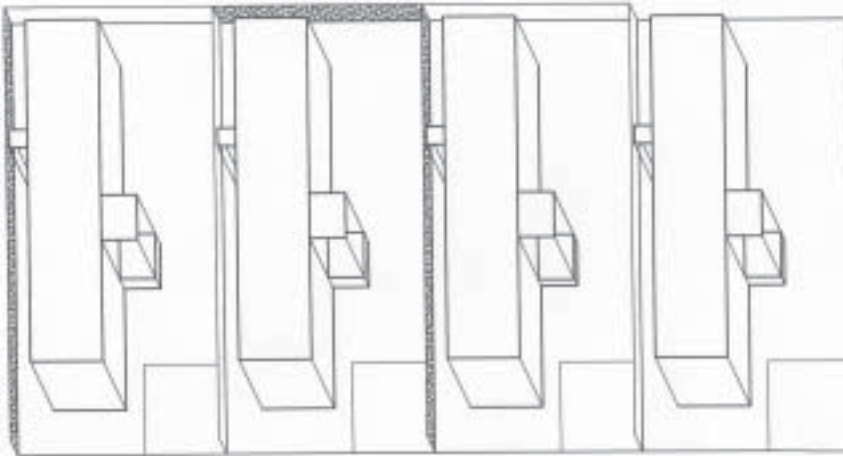
### **3.4.3 Type Two Gable End of House Facing the Street (Utilitarian Layout)**

Common elements in typology:

1. The layout defies the normalcy of suburban layouts of front doors facing the street. This layout can fit into a more urban neighborhood if the front door is located at or near the street end of the house and clearly marked as the entrance.
2. This layout allows for a hierarchy of outdoor space, though it will be necessary to clearly mark the boundaries of each lot. Fencing or hedging will create the best private space in this layout.
3. Achieving an aesthetic view from this house will be very difficult without great grade changes to allow views over the house next door. Otherwise the front windows of one house open upon views of the house next door, only thirty feet away.
4. The required lot dimensions for a 16' x 76' home result in a 4,416 sq. ft lot. The required lot dimensions for a 24' x 54' home results in a 3,996 sq. ft. lot, which does not meet some municipal requirements for overall lot size. (Table 3.2) The lot dimensions would have to be enlarged for this size home.
5. The street front view of the narrow house end and a long narrow yard do not contribute to a feeling of openness for the neighborhood.
6. There is little space at the front end of the lot for the planting of street trees.

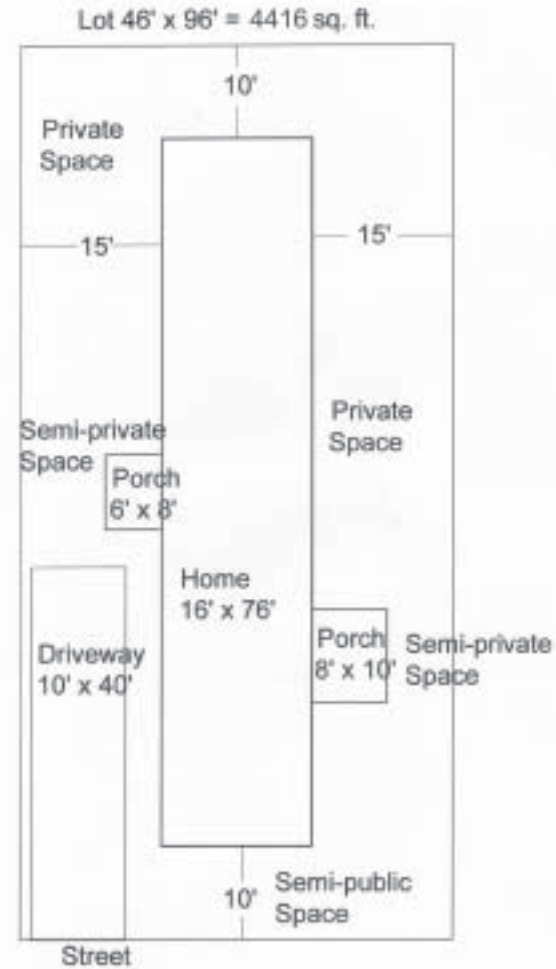
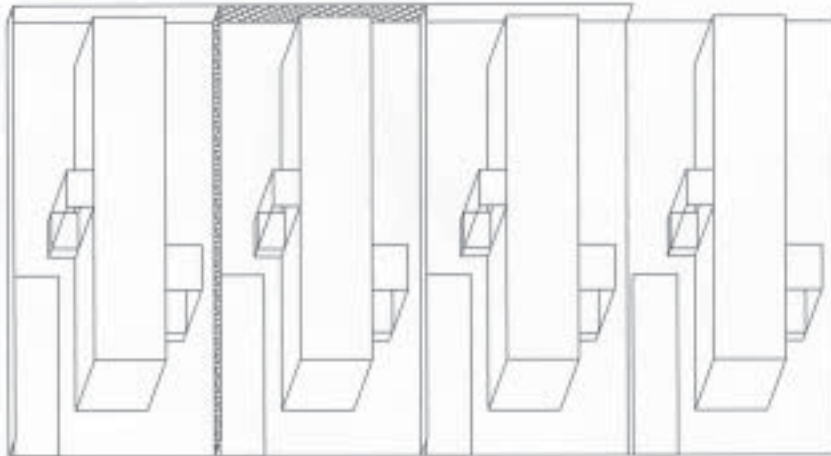
### Example 1

1. This layout places the outdoor private space at the front of the house.
2. The back door opens onto a service area that is large enough for a small storage shed, trash cans, utilities and other outdoor storage needs.
3. The size of the yard at the front of the house allows for a parking pad in which the cars can be parked side by side.



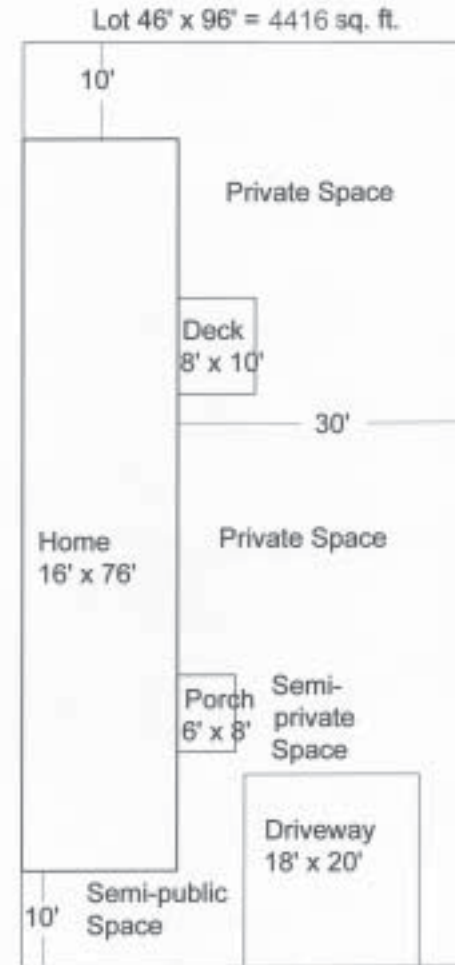
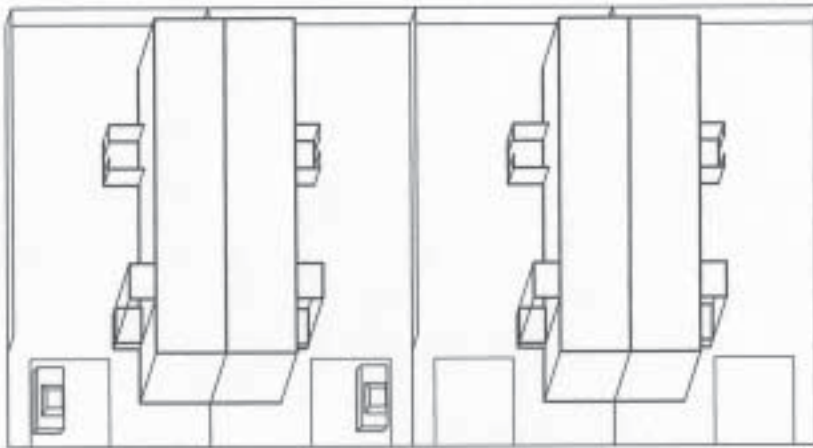
## Example 2

1. In this layout, the placement of the house equally divides the front and back yard spaces. This reduces the size of the usable outdoor private areas (22' x 15' rather than 22' x 20') though it does provide for two different private spaces. Outdoor storage at the back of the house will reduce the usable space even more.
2. Fencing or hedging will be necessary to create privacy for the outdoor space and the home.
3. The placement of the home narrows the space for parking. Two cars can be parked end-to-end on a long, narrow parking pad. The parking pad can be placed either at the front or back of the house. This may be dictated by the location of the front and back door along the facade of the house.
4. There is space for the owners to expand the porches and decks for use and aesthetics.



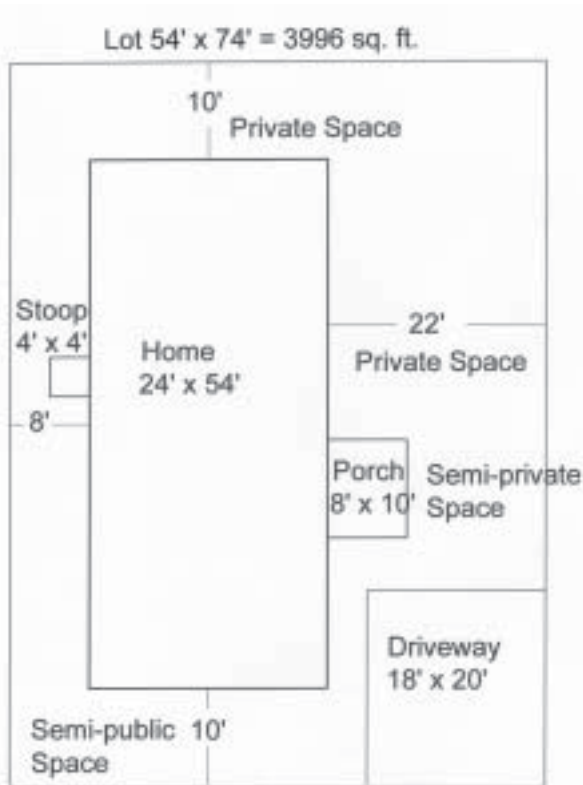
### Example 3

1. The zero lot line layout places the back of the home on the boundary line between the two lots. In order to do this, both doors of the home must be on the front facade of the house and there should be no windows on the back side. These design specifications will probably require working with a manufacturer to specially produce houses for this type of layout.
2. This layout provides for a large open space at the front of the house, thirty feet in width.
3. If the houses are not placed back-to-back as in the example below, little fencing will be necessary because the back wall of each house will serve as a boundary for the private outdoor space of the next door house.
4. There is plenty of space at the front of the house for a side-by-side parking pad.



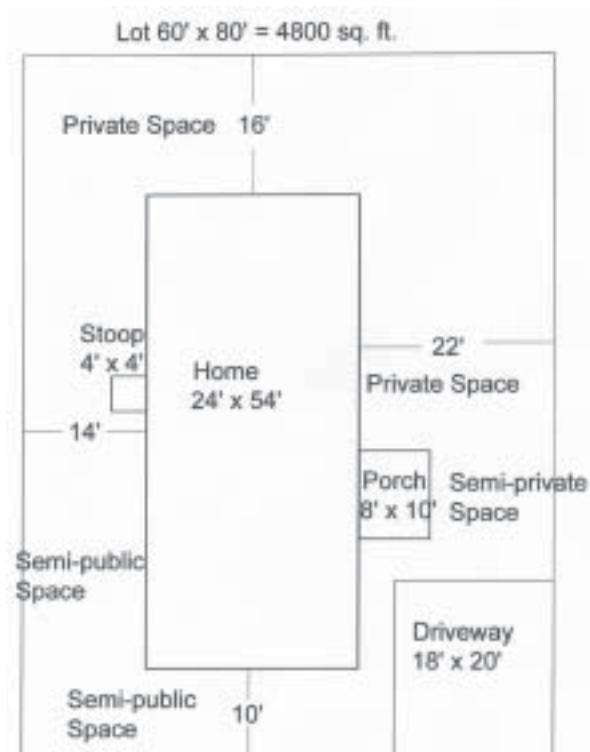
### Example 4a

1. In order to use this design for our 24' x 54' house, it is necessary to increase the yard dimensions to meet the Blacksburg town code requirement of 4,800 sq. ft. The result is example 4b.



### Example 4b

1. By increasing the lot length by six feet and the lot width by six feet, the lot now meets the minimum requirements.
2. This extra outdoor space provides excellent opportunities for creating outdoor private space.
3. If the extra length is added at the front of the lot instead of the back, there is sufficient space for the planting of a street tree.
4. The increased size of the setback also increases variety in the streetscape by avoiding a monotonous row of equal setbacks.



### 3.4.4 Type Three House Front Parallel to Street

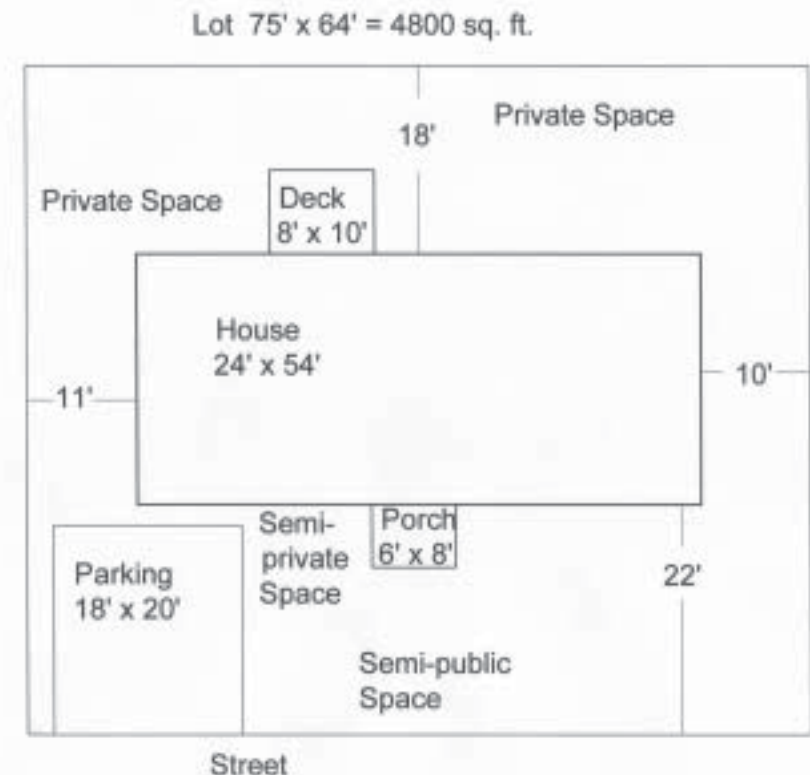
Common elements in typology:

1. This layout reflects the standard urban and suburban relationship of front door to street. This gives the greatest sense of normalcy or familiarity to viewers and residents.
2. There is a good opportunity for a clearly defined hierarchy of spaces which encourage the resident to claim territory.
3. The house front facing the street across a small lawn area also contributes to a feeling of openness.
4. The siting of the house allows for the front windows to overlook a more open space. With fifteen to twenty feet of lawn area, twenty feet of street and another fifteen to twenty feet of lawn area, there is more opportunity to create aesthetic views without another house obstructing the sight line.
5. There is plenty of space for a display garden.
6. This lot size falls between the size of the diagonal placement (largest) and the end-to-street placement (smallest).
7. Because of the length of the 16' x 76' house, this layout uses more space than the 24' x 54' house.
8. Where lots are placed back to back, privacy can be attained by placing a fence or hedge along the back end of the lot and partially along the two sides of the lot.

#### Example 1

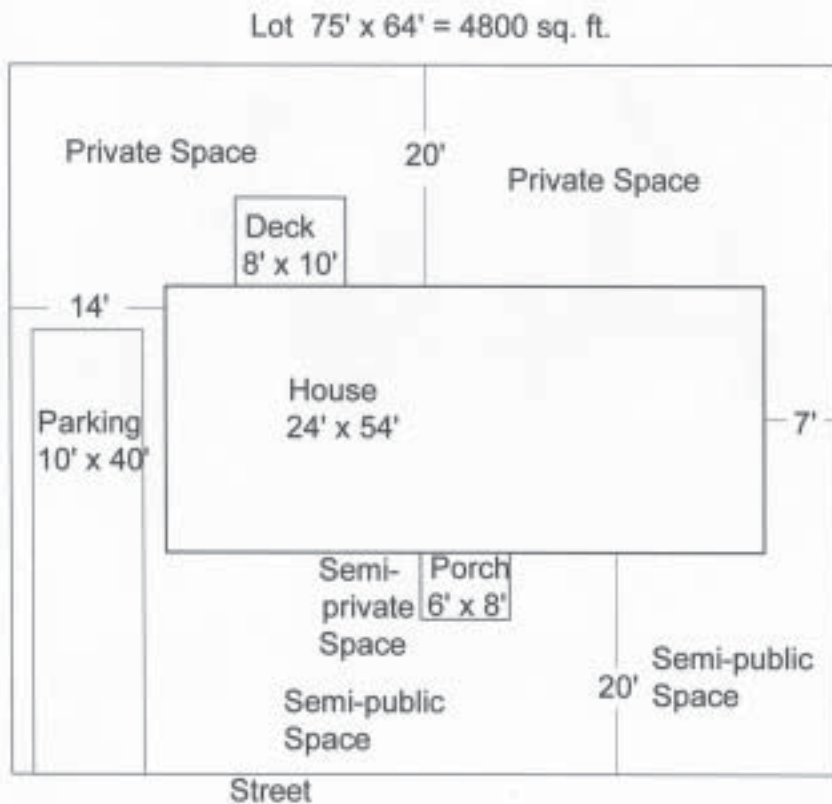
1. This layout places the house near the center of the lot. In order to attain the minimum size of 4,800 sq. ft., it is necessary to add an additional foot to one side of the lot dimensions.
2. To enable a twenty foot deep parking space, it was necessary to move the home two feet towards the back, creating a slightly larger front yard and slightly small back

yard. This layout increases the visual clutter by placing the side-by-side parking pad in front of the house. Parking the cars in front of the house also reduces the feeling of openness.



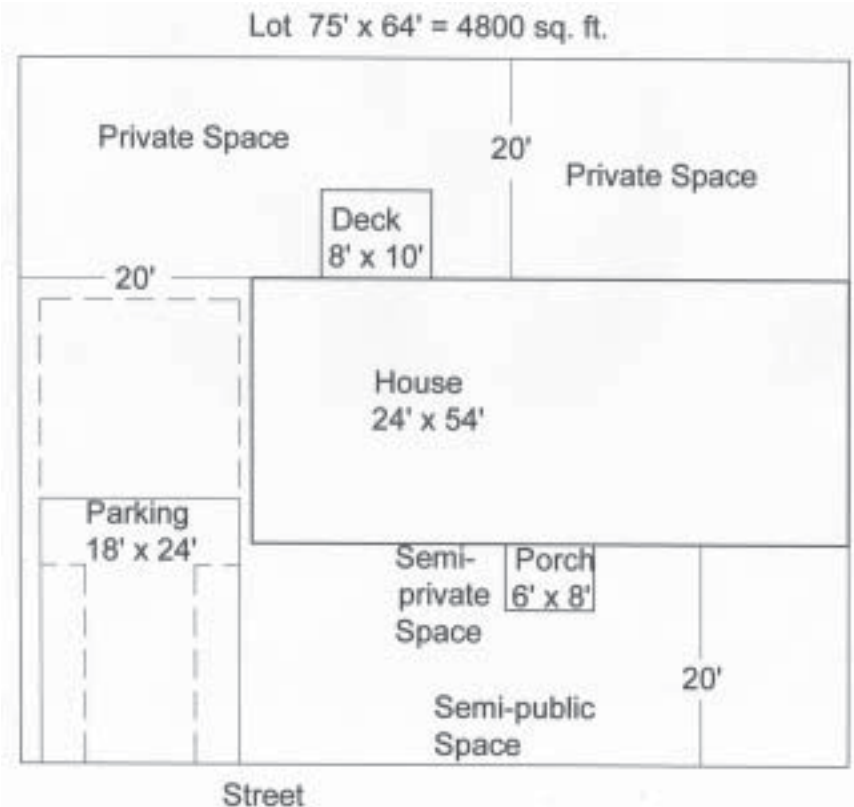
### Example 2

1. By moving the home to one side of the lot, enough space is created to place an end-to-end parking pad at the side of the house. This keeps the cars from obstructing the view of the homes, reduces visual clutter and maintains the open feel of the house and front yard.
2. Moving the parking to one side also allows for flexibility in the size of the front and back yards. By shifting the placement of the house forwards or backwards, the homeowner can increase/decrease the size of their semi-public and private spaces to suit their needs. The resulting variation in setbacks can add visual interest to the street.



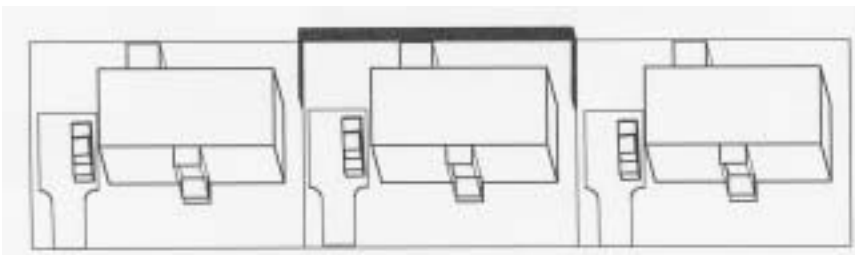
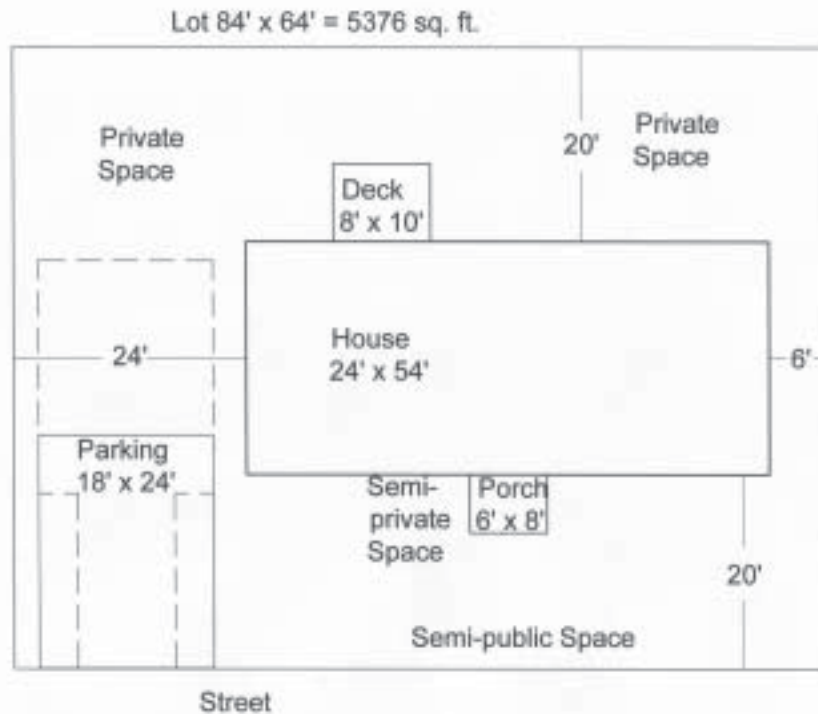
### Example 3

1. By moving the house to the side boundary in a zero lot line arrangement, a side-by-side parking pad can be installed. This also increases the usable outdoor space at the side of the house behind the parking pad.
2. By adding a driveway and moving the parking pad further back, the visual clutter will be reduced further and the open feel of the front yard will be increased.



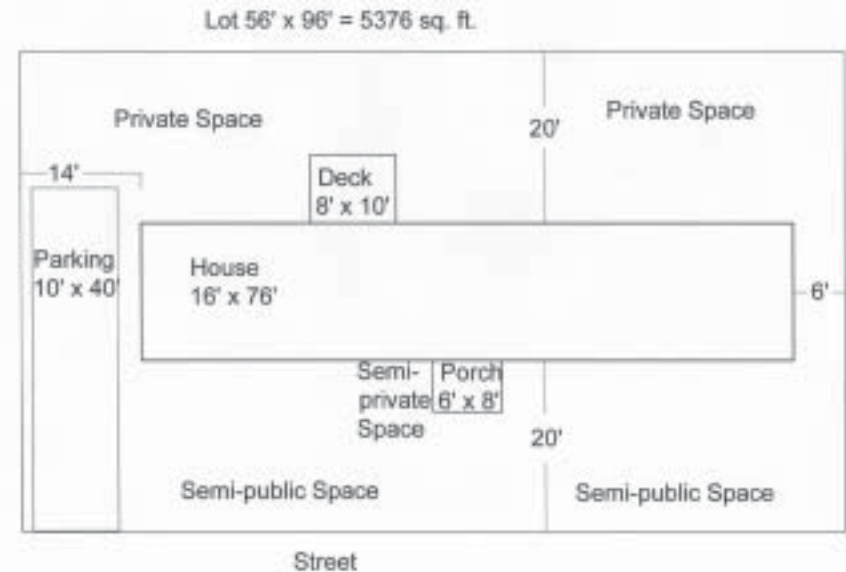
### Example 4

1. By increasing the size of the lot by ten feet from side to side, it allows for a full sized parking pad to the side of the house and negates the necessity for a zero-lot-line.
2. As in Example 3, by adding a driveway, the parking pad can be moved further back along the side of the house, further reducing visual clutter. If left closer to the street, usable outdoor space is created at the side of the house.



### Example 5

1. Because of the length of the single section house, this lot requires a lot of space.
2. Placing the parking pad in front of the house increases visual clutter, but does not affect the feeling of openness as negatively because of the length of the front facade.
3. Enlarging the lot size so that a side-by-side parking pad can be placed to the side of the lot increases the lot to 5,936 sq. ft. This increase in lot size begins to negatively affect affordability. Placing a side-by-side parking pad at the back of the lot with a driveway running from the street along the side of the house may serve as a solution.





## Example 6

1. By decreasing the size of the front and back yards by up to five feet each, it is possible to reduce the amount of acreage. This reduces the amount of usable outdoor space for the resident. If you increase the back yard to make it more functional, you decrease the openness of the front yard and streetscape by moving the house too close to the street. Moving the house closer than fifteen feet to the street would also decrease the space for the placement of street trees.



## 3.4.5 Evaluation and Conclusions

This typological study of siting low-cost manufactured homes on three lot types was developed from criteria found during the literature review. In order to assess the success of each design, it is necessary to evaluate them using the aforementioned criteria: affordability, sense of normalcy, degree of diversity, avoidance of visual clutter, amount of naturalness, ease for boundary marking and provision for aesthetic views

### Affordability

Since it is necessary in this study to keep affordability in mind, it is important to consider the amount of space each layout requires. Lot rent will increase as housing density decreases, especially in an area where land is at a premium.

The following table records dimensions and total square footage for each layout used in the examples above. The table is divided into three sections to match the preceding typologies. Each section then refers back to the examples used in that typology.

**Table 3.3 Affordability**

Typology	Example	Lot Dimensions	Single Section	Double Section
Diagonal	1 - 3		5691 sq. ft.	
Diagonal	1 - 3			5726 sq. ft.
Gable end to street	1 - 3	46' x 96'	4416 sq. ft.	
Gable end to street	4a	54' x 74'		3996 sq. ft.
Gable end	4b	60' x 80'		4800 sq. ft.
Front to street	1 - 3	75' x 64'		4800 sq. ft.
Front to street	4	84' x 64'		5376 sq. ft.
Front to street	5	56' x 96'	5376 sq. ft.	
Front to street	6	46' x 96'	4416 sq. ft.	

The table demonstrates that the end-to-street and front-to-street layouts are the most economical in terms of acreage.

## **Normalcy**

Normalcy or familiarity positively affect acceptance as seen in Chapter Two. This factor will change depending upon the location of the manufactured housing development. In a more urban area where row houses with their narrow facades and very limited yard spaces are the norm, the gable end-to-street layout will mimic this spatial feel and will likely be more accepted. In a suburban area where the houses face the street over an expanse of lawn, the front-to-street layout and the diagonal layout of manufactured homes should be more acceptable. Both of these layouts contribute a greater feeling of openness to the street, an important factor in suburban settings.

## **Diversity**

It is necessary to have enough diversity in a streetscape to create interest. But too much difference from home to home will destroy the sense of neighborhood cohesiveness. The fact that the homes are all manufactured houses which are similar in size and shape increases the visual coherence. In order to avoid monotony something needs to set the houses off from each other. This can be house color, the size, shape and location of the house entrances/porches, the variety of plants, garden sizes and locations, and the amount of setback from the street.

The end-to-street layout provides the least opportunity for variation and visual interest. The front doors tend to be located towards the center of the long house facade and away from the street, reducing the impact of any differences there. The narrowness of the lots reduces the amount of space available for display gardens. Setbacks will vary only if there are a variety of house sizes in the development, or the lot sizes are increased to allow for setback variety.

Both the diagonal and front-to-street layouts allow for the front facade and entrance of the house to add variety to the streetscape. They also can allow landscaping in the front yard to

aid in diversity of the neighborhood, except for example 1 in the diagonals where the ten foot space is too small and the larger back yard space is sequestered away from the street.

## **Visual Clutter**

Visual clutter reduces the acceptance of views. Visual clutter can include parked cars, visible utility lines, poles and meters, visible AC units, and service and storage areas for a house. All three typologies allow for the location of service and storage areas away from the street and out of sight of passers-by. The amount of space allotted for this is determined by the location of the home's entrance along the facade: the closer to the street the door is, the more space is created for this purpose. When the storage area is located along the front facade of the home, even though not visible from the street, it can intrude upon the aesthetics of the front entrance if not screened from the porch area.

The intrusion of parked cars into the streetscape is the most difficult problem to alleviate. Because of the small sizes of the lots, there are not a lot of choices for locating the parking pads. The end-to-end parking pads reduce the visual clutter by "hiding" one of the cars further into the lot, but can cause a great deal of inconvenience for the residents. The diagonal layout has a good location for the parking pad and an area for planting that would limit its visual intrusion onto the street.

## **Naturalness**

People prefer to look at views with elements of the natural world in them. In a neighborhood this would include plants and small animals such as squirrels, birds and butterflies. The end-to-street layouts provide the least opportunity to introduce natural elements into the streetscape. There is little room for street trees between the street and the home unless the lot sizes are increased, increasing the price and decreasing the affordability. Though there is room for a display garden or small lawn at the front end of the lot, it is quite small. Landscaping in the front of the house would

be less obvious from the street because of its location along the side of the lot. The location of the parking pad could decrease this even further.

The diagonal layout has a built-in location for street trees and other plants in the triangular space at the street end of the lot. In addition, at least half of the front yard is easily visible from the street, adding the opportunity to increase the degree of natural elements in the scene.

The front-to-street layout also provides room for increasing the natural elements in a scene. There is plenty of room for street trees as well as a landscaped front yard. Where parking is moved further back on the lot, the opportunities for an increased degree of naturalness are created.

### Boundaries

Clearly marked boundaries are important to encourage the claiming of territory by the residents. These barriers can range from solid barriers such as walls or fences to visual clues that intrusion is not acceptable. Garden beds, wire wickets or a line of stones or logs could serve as visual clues.

Because of the closeness of the houses, visual privacy for an outdoor space will require some type of screening in all of the layouts. This could include fencing or a hedge along the entire perimeter of the lot, or just a smaller area screened from the view of neighbors.

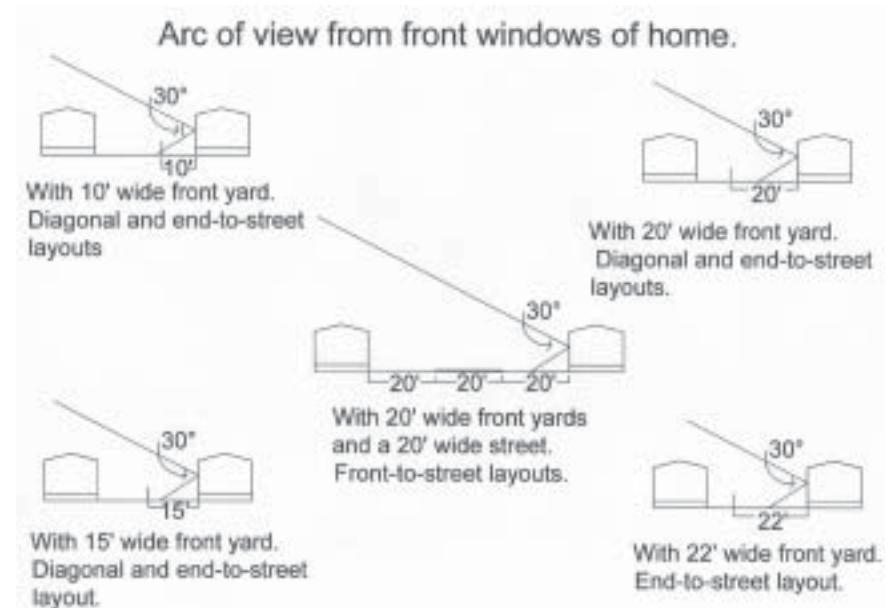
### Aesthetic Views

Aesthetic views from the house are an important part of resident satisfaction. These views can be either from the windows or the yard, or both. It is more difficult to arrange for aesthetic views when the houses are placed end-to-street. (Figure 3.2) The views from both the front windows and the yard are of the house next door. By using a zero lot line layout, the front yard is increased to

thirty feet, allowing the owner more space to incorporate into a pleasing view. However, if screening is not used along the back of the next door house, the view will be of a blank facade.

Half of the front windows in the diagonal layout will have a view to the street and beyond, but half will overlook only the small front yard space.

The front-to-street layout provides the best opportunities for aesthetic views from the front windows of the house. There is sixty feet of space between the fronts of opposing houses. The distance between the houses also increases the visual line of sight as seen in the diagrams below. (Figure 3.2)



**Figure 3.2** The closer the homes are together, the smaller the arc of view from windows, porch or yard.

### 3.5 Block Typology

The manner in which the individual lots are placed together will set the tone for the character of the neighborhood. The relationship between the houses and the street, the shared community spaces and pathways can encourage the claiming of territory beyond the individual's yard. The claiming of territory beyond the yard is what Altman called secondary territory (Harris and Brown, 1996).

The conceptual model below (Figure 3.3) shows the relationships between the private spaces or house lots and the public spaces. The public spaces consist of connecting streets and pathways and shared community spaces. The shared community spaces are the structure upon which the neighborhood is organized.

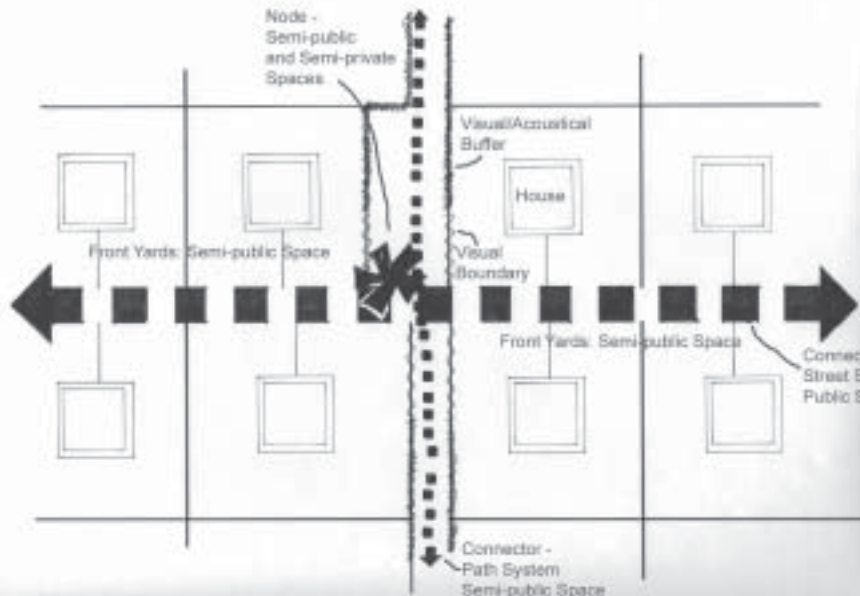


Figure 3.3 Block concept diagram

The community spaces serve different purposes at different levels:

- The streets not only move vehicular traffic through the area, but at the block level, the street serves as an informal community space for walking, playing and interacting with the neighbors.
- The pedestrian pathway serves as a less public common space that interconnects the blocks at a more intimate scale. This pathway should intersect both the street and shared community spaces.
- The shared community spaces include small pocket parks, an area for the residents' mailboxes, playgrounds or picnic areas. The shared community spaces are located so that the residents have easy access to them, though their houses are not necessarily adjacent to the spaces.

### Blacksburg Municipal Code Requirements Used for Manufactured House Siting<sup>2</sup>

Applicable sections of the Blacksburg Municipal Code require:

#### Streets

1-way private access drive

- 12 foot minimum width with no parking on the street
- 18 foot minimum width with parking allowed on one side

2-way private access drive

- 20 foot minimum width with no parking allowed.
- 28' minimum width with parking allowed on one side

#### Open space

A minimum of 30% of the total district area shall be designated as permanent open space.

An area for passive or active recreation uses shall be developed. The open space shall be owned in common by the manufactured home park residents or shall be made available through the use of easements to all residents of the development.

Minimum requirements for all home sites:

A side yard facing the street shall be 20 feet or more.

**Lot Sizes Used:**

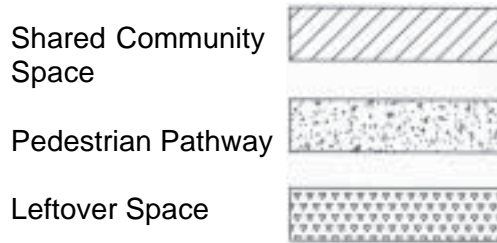
Lot sizes are based upon the designs in the Lot Typology and adjusted as necessary.

**Definition of Terms Used**

Vertical Streets – are streets that are placed vertically on the page.

Horizontal Streets – are streets that are placed horizontally on the page.

**Key to Diagrams**



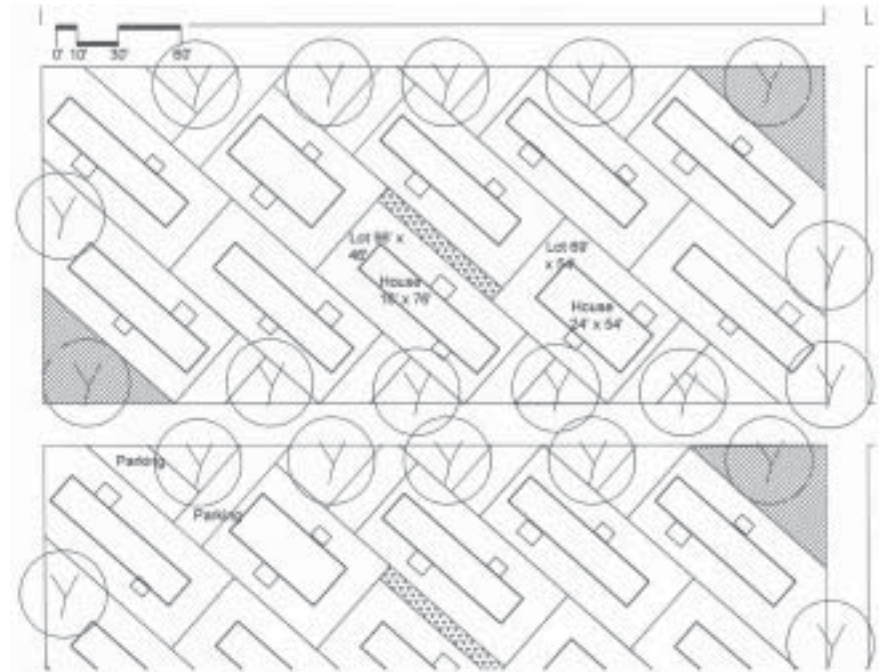
Leftover space is space that does not fit easily into a configured lot or public space. If added to one house lot rather than another, conflicts could arise between residents.

**3.5.1 Type One  
House Placed at a Diagonal to the Street**

The layout of the diagonal lots requires the most space of the three basic designs. But this layout allows for the most interesting community spaces.

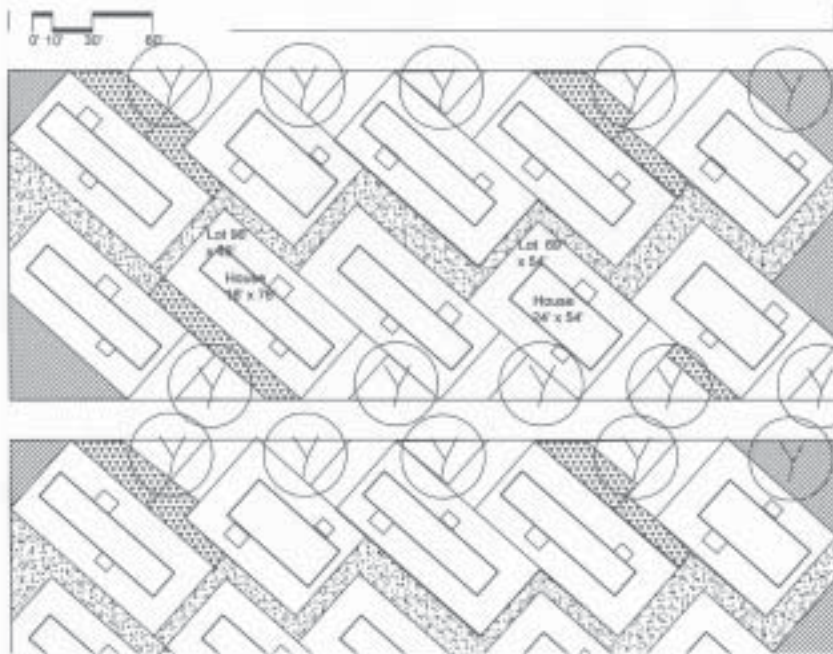
**Example 1**

1. This design requires the least space of the diagonal layouts, but reduces the possibilities for pedestrian paths and community spaces.
2. Shared community spaces are found in the small triangular shaped areas at each end of the block. This space can be increased for recreational purposes by leaving a house off of one of the adjacent lots.
3. Because of the use of two different size house lots, there are some awkward spaces created which cannot be used as community space and must be added to adjacent house lots.
4. The streets serve as both vehicular and pedestrian pathways in this design. Traffic control devices will have to be used to increase pedestrian safety.
5. Orientation of the block is along the horizontal street with a strong emphasis on the ends of the block.



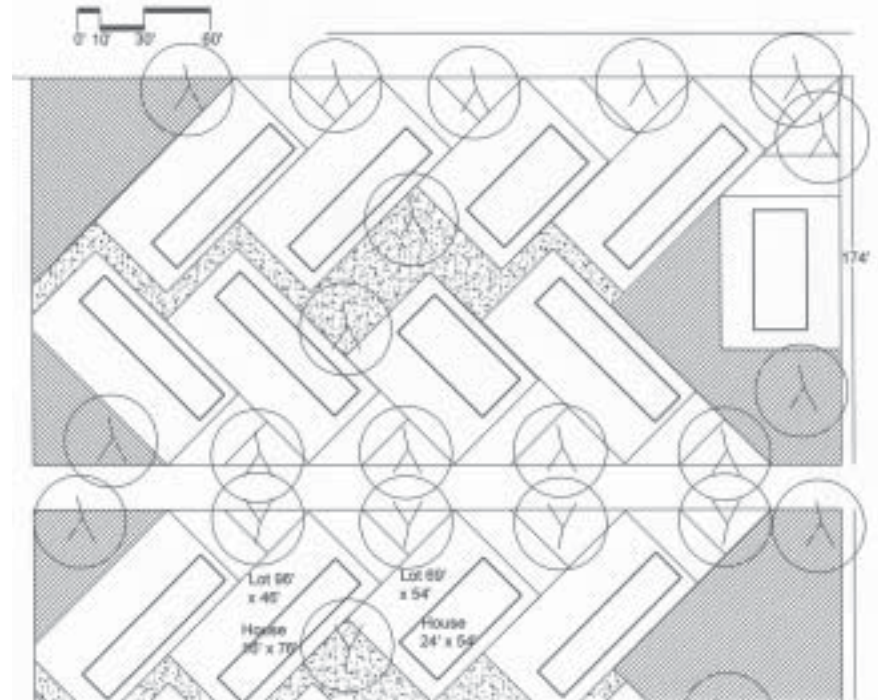
### Example 2

1. In this layout, the rows of houses are slightly separated, creating a narrow, zigzag community area for a pathway through the neighborhood.
2. The use of more than one size lot creates problematic spaces which cannot be used as community spaces. These areas must be added to the house lots, increasing the size of private spaces, but decreasing the number of houses than can fit on the site.
3. This layout creates two different orientations for the houses. One orientation is to the horizontal street. The second orientation is to the pedestrian pathway running along the back sides of the lots. To maintain this orientation if fences or hedges are used along the back of the lots, it will be necessary to include openings through the barriers onto the pedestrian space.



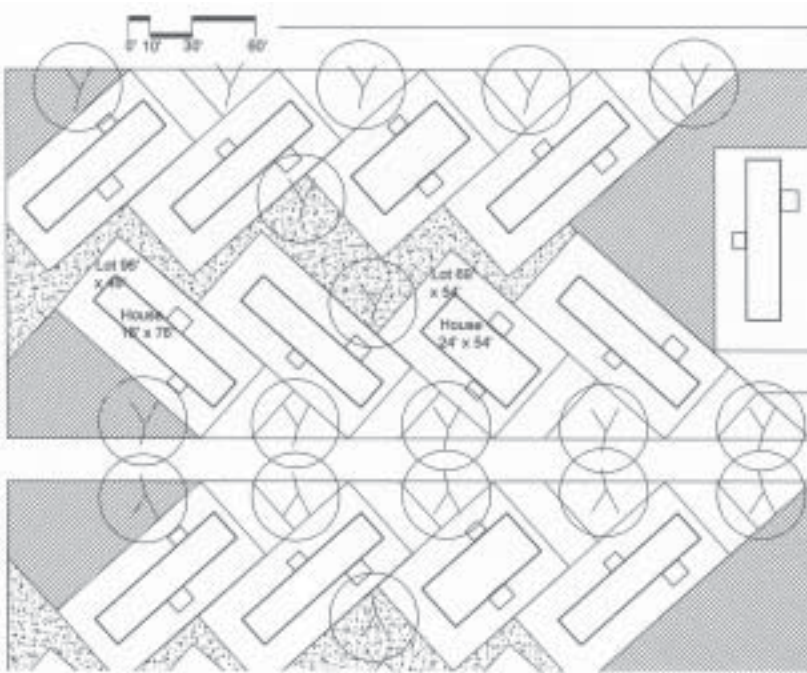
### Example 3a

1. By placing the shorter lots in proximity to each other, it is possible to create larger spaces along the pathway for a pocket park. This common space provides a semi-private space for residents to meet and socialize, rather than the more public community spaces at the ends of the block.
2. By leaving one of the lots adjacent to the triangular shaped community space at one end of the block vacant, a large space for recreational activities is created.
3. There are two different orientations for the block. The strongest is along the horizontal street with a strong emphasis in the community space at the left end of the street. The second orientation is towards the community space and pathway that runs between the backs of the lots, ending in a large community space at the end of the street and oriented to the vertical street.



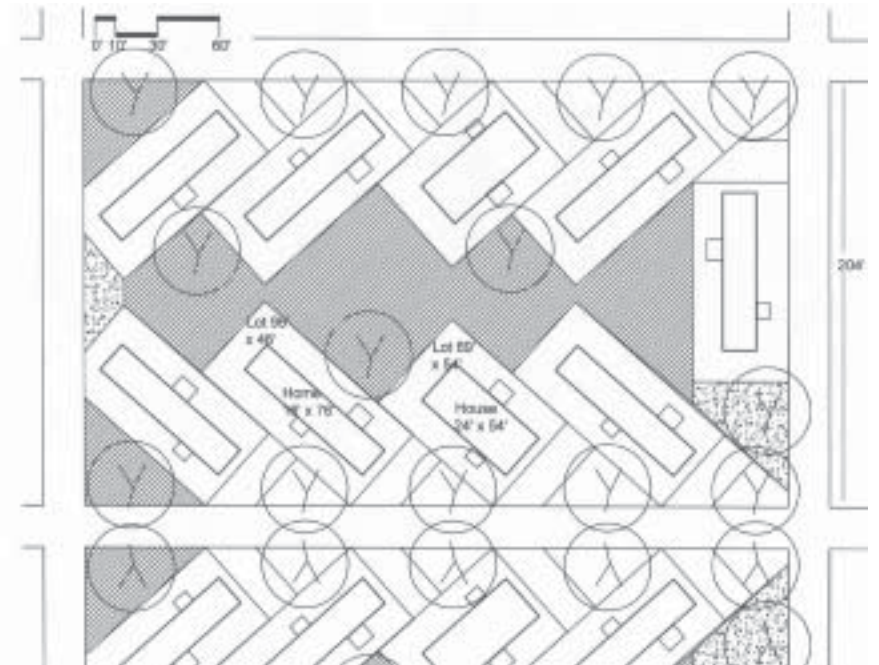
### Example 3b

1. By changing the angle of the lots to the street, it is possible to change the character of the pathway, creating wider and narrower spaces. This creates a less formal space.



### Example 4

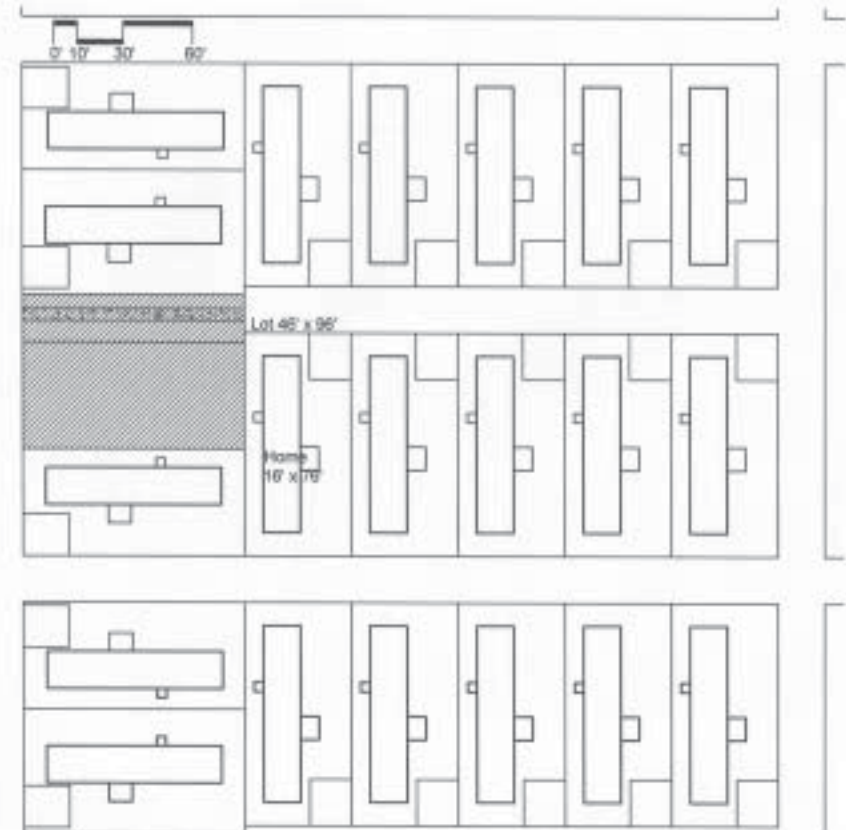
1. By moving the backs of the lots further apart it is possible to create a series of semi-private community spaces in the middle of the block. These spaces are large enough to provide for a variety of uses including children's play areas, picnic areas and pocket parks.
2. Pedestrian pathways wind through the community spaces in the middle of the blocks, paralleling the horizontal streets.
3. By removing the house oriented along the vertical street, a more public recreation area can be created.
4. There are two orientations to this design. The first is along the horizontal street with an emphasis in the community space at the end of the street. The second strong orientation is to the community spaces between the backs of the lots. By creating a variety of large, usable spaces, orientation is drawn away from the street.



### 3.5.2 Type Two Gable End of House Facing the Street (Utilitarian Layout)

#### Example 1a

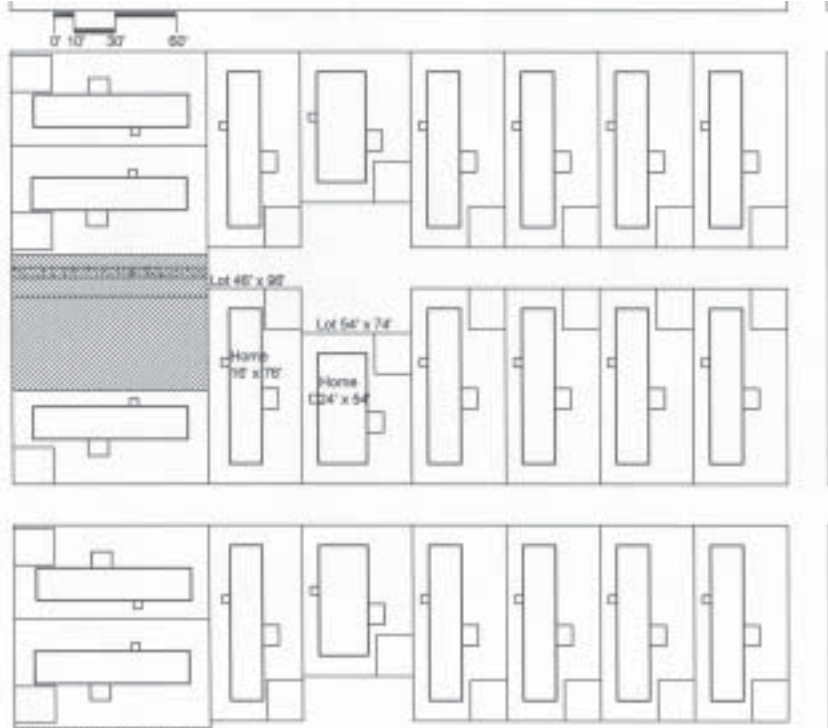
1. For most of the houses in this layout, the parking is at the back of the lot, accessed by an alleyway. To prevent the alleys from becoming just another thoroughfare, a row of houses is placed perpendicular to the horizontal length of the block, cutting off the alleyway. The lack of vehicles parked along the horizontal street creates a positive visual aesthetic.
2. The alley, with its reduced vehicle traffic can be tied into a pedestrian walkway system that runs through the narrow common space at the end of the alley. If a larger community space is needed for a playground, a lot adjacent to the narrow walkway space can be conscripted.
3. It will be necessary to either add additional space to the perpendicular house at the end of the row, or flip the front/back yards, so that there is twenty feet between the length of the house and the street as required by code. If the house is flipped, then space will need to be added to the adjacent perpendicular house to ensure the required footage between houses.
4. Orientation of the houses is a mixture. The alley creates an orientation to the back of the horizontal street houses for utilitarian purposes. Placing the access to the community space from the alley reinforces the orientation to the alley. To provide an orientation along the horizontal streets it will be necessary to create a positive ambience to draw people out of their houses and yards towards the street.





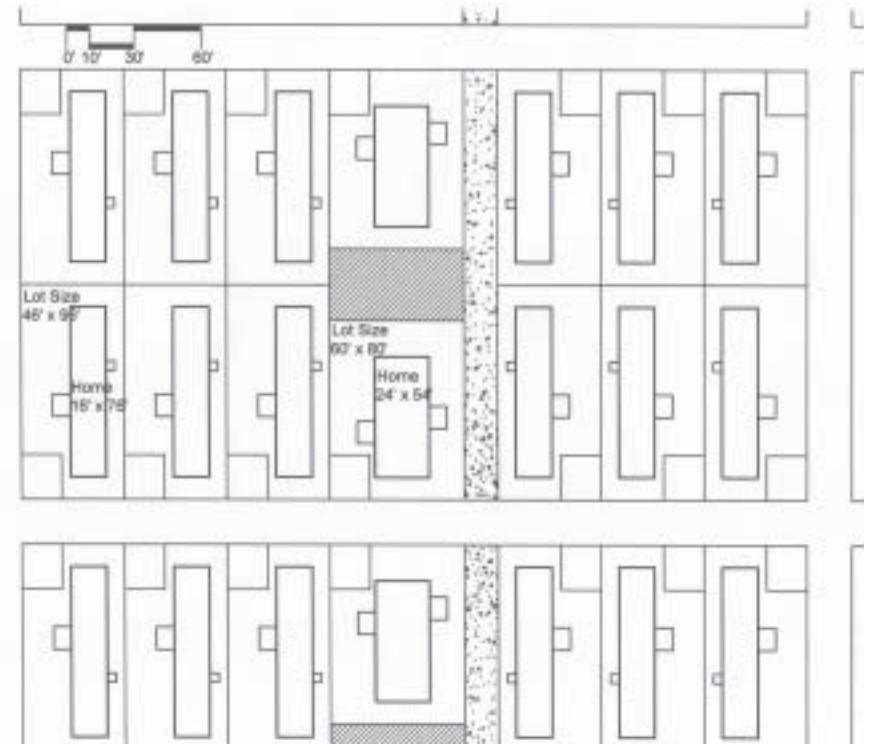
### Example 1b

1. When mixing house sizes it is possible to create a turnaround for the alley by placing two short lots opposite each other.



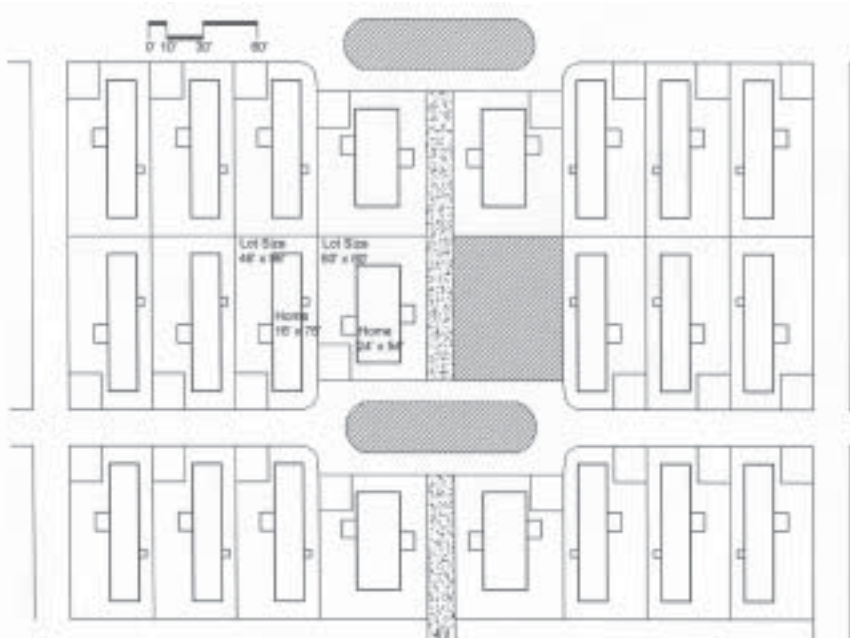
### Example 2

1. This layout is similar to the Type Three, Example 3, in that the pedestrian pathway runs through the center of the block, perpendicular to the horizontal street.
2. By placing two short lots back to back, it is possible to create a usable community space at the center of the block. This space could hold a tot lot or a pocket park and the mailboxes. Since it is not connected to the street, it is a more intimate space.
3. Placing the community space and pathway at the center of the block creates a strong orientation towards the center of the block. There is still a strong orientation to the horizontal street.
4. In order to have a more public community space, one of the lots adjacent to the pathway and small community area can be used. This would provide enough space for a community playground.



### Example 3

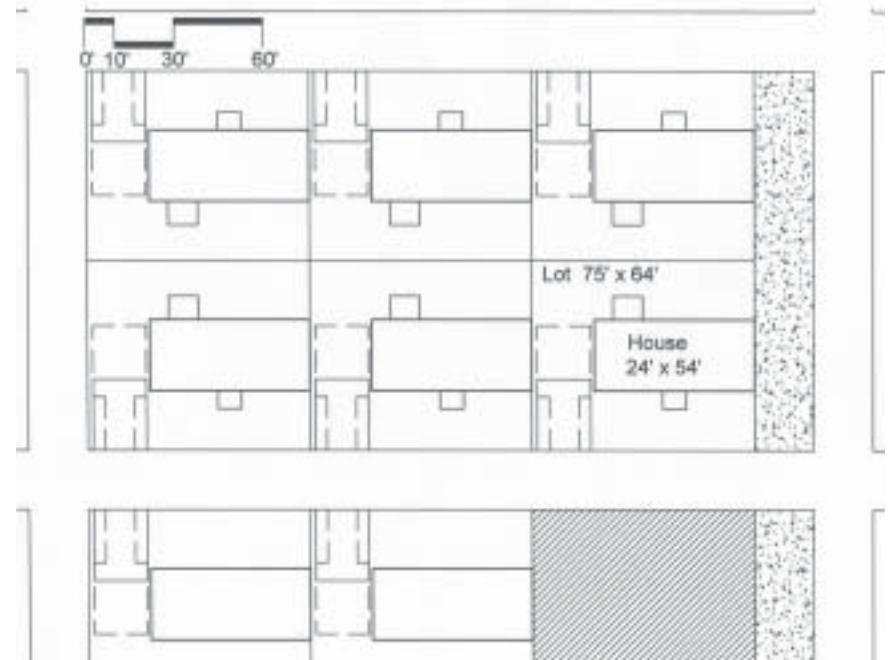
1. In this layout a simple block design of side-by-side houses is transformed by placing the shorter lots back-to-back. This creates space at the front of the lot. By placing an island in the street, there is still room for traffic flow, that will have to slow down to safely negotiate around the island. The island serves as a small community space for mailboxes and a small park.
2. The pedestrian pathway passes through the island and continues through the center of the block, connecting the neighborhood together.
3. One of the shorter lots adjacent to the path can be utilized as a larger community space for a playground or picnic area.



### 3.5.3 Type Three House Front Parallel to Street

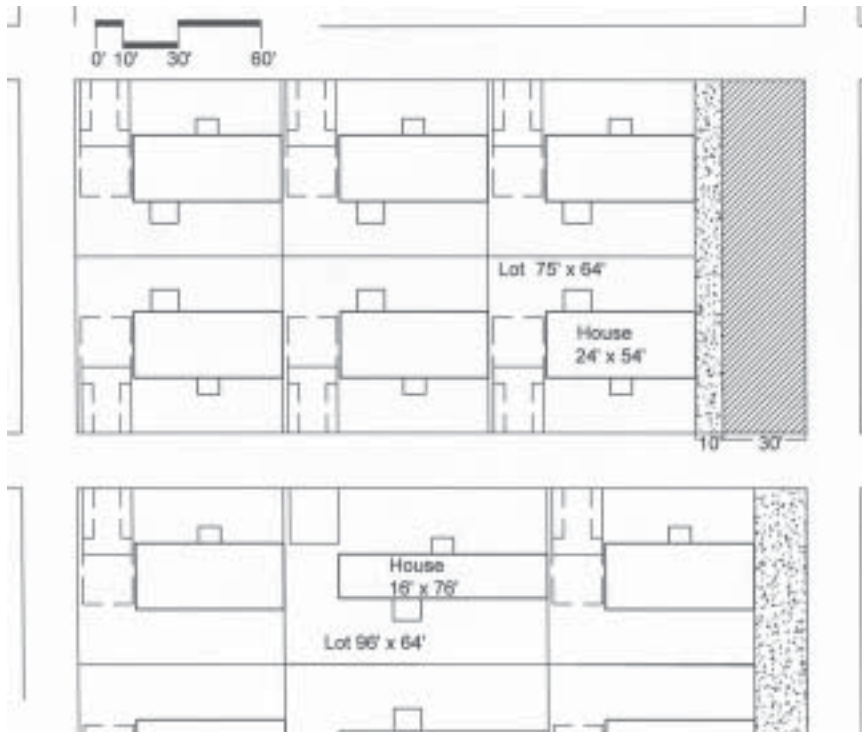
#### Example 1a – Zero Lot Line Placement

1. Because of the zero lot line layout, this design requires that a twenty foot easement be added between the end of the house and the vertical street in order to meet the municipal code. The easement can be used for the pathway that connects the blocks together. Mailboxes and seating can also be incorporated into the space, creating a small gathering space for the neighborhood.
2. One lot is used to provide a neighborhood recreation space that will serve four or more blocks. The recreation space connects to both the street system and the pedestrian path system.
3. Orientation of the block is to the horizontal street with a strong emphasis towards the community space end of the street.



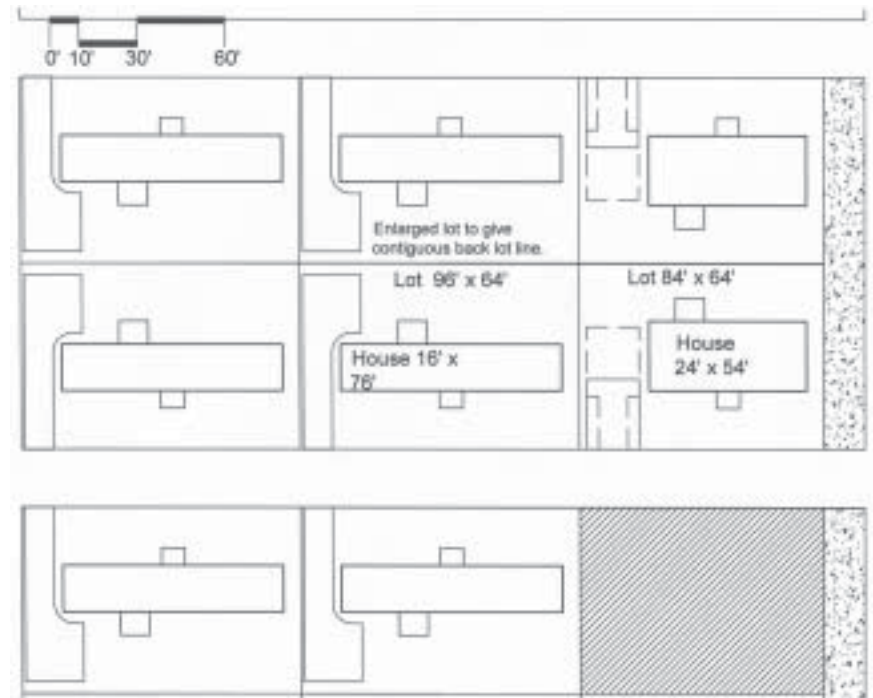
### Example 1b

- 1 By widening the easement to forty feet, it is possible to move the recreation area to the end of the block. The pathway is set through a ten foot wide area to help buffer the zero lot line homes from the people using the recreation area for active play. A line of shrubs along the house side of the pathway would help to buffer noise and keep children from bouncing balls against the walls of the houses.
- 2 Orientation of the block is to the horizontal street with a strong emphasis towards the community space end of the street.



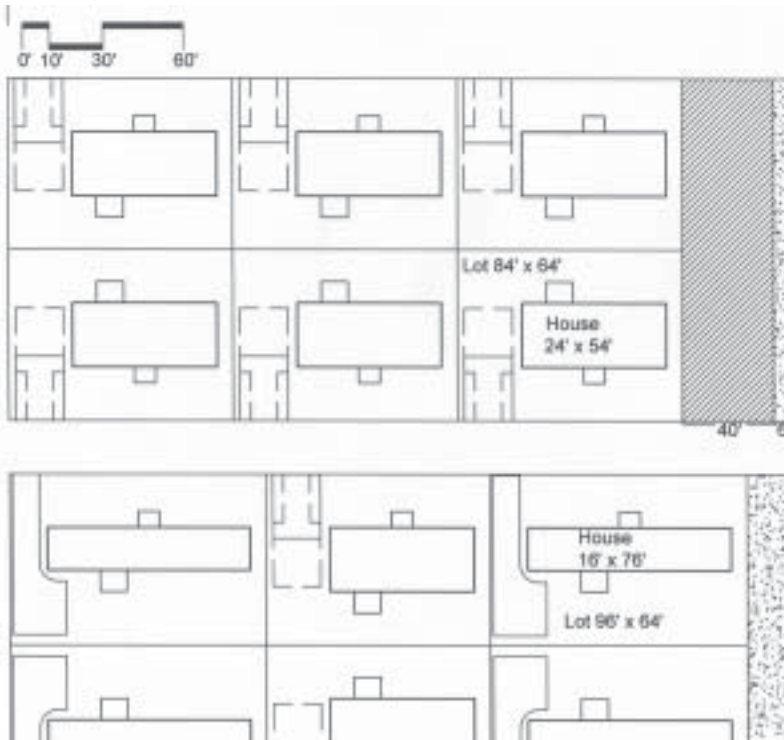
### Example 2a

1. In the non-zero lot line layout, there is six feet between the house wall and the side of the lot. It is necessary to add a fourteen foot easement at the end of the block in order to keep the end of the house twenty feet from the vertical street. This narrower easement makes a good space for a pathway connecting the block to the neighborhood. There is also room for mailboxes and seating along the path, creating a social space for the block.
2. One lot is used to provide a neighborhood recreation space that will serve four or more blocks. The recreation space connects to both the street system and the pedestrian pathway.
3. Orientation of the block is to the horizontal street with a strong emphasis towards the community space end of the block.



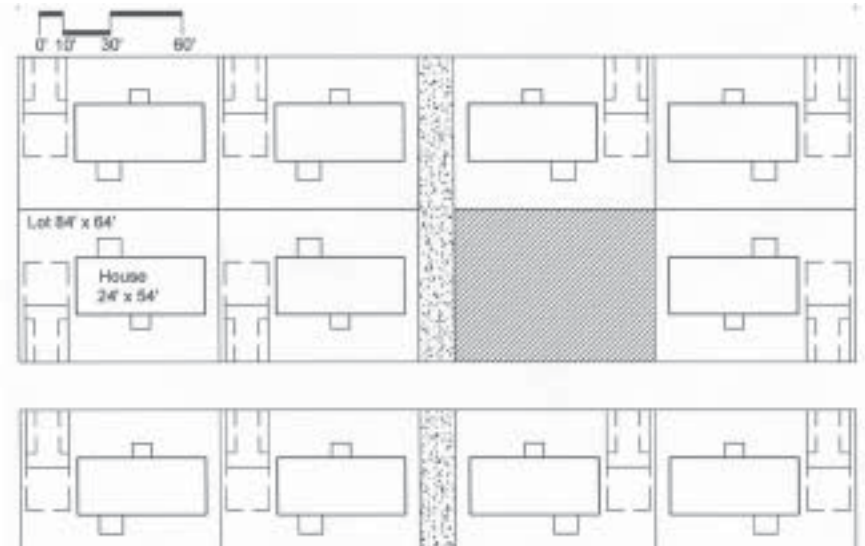
### Example 2b

1. This design moves the recreation area to the end of the block. Its placement along the end of the block makes the space seem more accessible to residents of the neighborhood, not just the block. But if the vertical streets are the main vehicle paths into and out of the neighborhood, the increased volume and speed of the traffic will pose a hazard to children playing in the space.
2. The pathway can run the length of either side or meander through the space. Though there is space between the house and the recreation area, a fence or hedge would give additional privacy and protection to the home owners abutting the recreation area.
3. Orientation of the block is to the horizontal street, with a strong emphasis towards the community space end of the block.



### Example 3

1. In this design, the pathway and recreation areas are placed in the center of the block. By flipping the layout of the lots, it is possible to place the driveway side of the houses along the vertical streets, providing the required 20' of space between the house and the vertical street.
2. Locating the community space and pathway at mid block creates possibilities for more intimate spaces than if placed at the end of the block. Depending upon the width of the corridor, a variety of spaces can be created along the path for resident block activities such as small seating areas, mailboxes and public art spaces.
3. Placing the recreational space at mid block creates additional safety for children as traffic along the horizontal streets will be less heavily traveled. Street trees and traffic control devices along the block can slow the traffic down even more. It will be necessary to design this space so that it is clear that this space belongs to the neighborhood, not just the block. Encouraging community input for the design of the space can help with this.
4. Orientation of the block is along the horizontal street with a strong emphasis on the center of the block.



### 3.5.3 Evaluation and Conclusions

The major concern in this design typology was in providing for a hierarchy of spaces upon which to organize the neighborhood. This organization provides for spatial coherence, adding diversity to the streetscape and a range of spaces upon which the residents can form social and psychological relationships, all criteria for designing good neighborhoods as found in Chapter Two.

#### **Type One – House Placed at a Diagonal to the Street**

This series provides a large range of pathways and shared community spaces. Example 1 has no separate pedestrian pathway, relying on the streets to serve in that capacity. This works along the quieter block street, but could prove hazardous along the neighborhood collector street with its increased traffic load. Small shared community spaces are located at each end of the block. These small spaces could serve as small gathering spaces centered around mailboxes. The location on the collector street would not make a tot lot or another child's space good choices for this space.

Pedestrian pathways are provided in Examples 2 through 4. Each example creates a space of very different character from the others. In Example 2 the path meanders through the center of the block. There is a small space at each end of the path which could serve as a small park or gathering space. This space is located on the collector street which decreases the suitability for use as a child's play area. Example 2 also has three dispersed areas of focus, the street the houses face on, the path the houses back onto and the shared spaces at the end of the block. This scattering of focal points weakens the territorial claims of all three. It will take a very strong element in one of the spaces to create a true focal point for the block and encourage the residents to claim secondary territory.

Example 3 creates the possibility for a strong focal point along the pedestrian path running along the backs of the homes. If access

is provided from the yards to the pathway, the wider spaces could serve as small gathering or playing areas. The small triangular areas at one end of the street could provide an area for mail boxes and benches in a small park. This would provide a strong focal point for the block based on the residential street.

The large triangular spaces at the opposite end of the block are a waste of space in a grid layout of blocks. This design might work better if there were physical obstacles such as a body of water or an irregular property line that this space could accommodate. It is not practical to place this large of a recreational area at the end of every block.

Example 4 creates the potential for the most interesting shared community spaces along the pedestrian pathway between the houses. There is space for a variety of uses including gathering, playing and relaxing. It presents children with a safer area for playing away from traffic. From my reading of Clare Cooper Marcus' works, I suspect the space would be used mostly by children, with the adults orienting more towards the street in front of the homes.

As in the Lot Typology, the diagonal layout has both strong possibilities and problems. It can create a variety of interesting spaces for shared community spaces. But in most examples it creates an abundance of large open spaces which decrease the affordability.

#### **Type Two – Gable End of House Facing the Street**

As was shown in the Lot Typology, this type of layout can be the most economical. It is fairly easy to incorporate pedestrian pathways and shared community spaces into the layout. In Example 1 the shared space and pathway are oriented to the space behind the houses and along the neighborhood collector street. By varying the size of the houses/lots on the block it might be possible to change the orientation to the horizontal street away from the traffic. Either placement leaves houses without a strong focal point on their street. Moving the shared space to the corner

of the block solves that problem but disconnects the space from the pedestrian pathway.

By eliminating the houses oriented on the neighborhood collector street it is possible to place the pathway at mid-block, perpendicular to the block's street. This helps to place the focus on the street which increases the claiming of secondary territory. By placing two shorter lots adjacent to the pathway (Example 2) a small shared community space is created. Because of its location away from the street, it creates less of a focal point for the street-based block. By removing one of the houses adjacent to the pathway, a larger recreational area can be created, bringing the focal point back to the street.

By placing the shorter lots back to back (Example 3) instead of even with the street, a new street-centered space is created. The larger space can be filled with an island, diverting the traffic around it in single lanes. The island can not only serve as a small park for the homes along the street, but will also serve to slow down vehicular traffic. This island creates a very strong focal point on the residential street. Properly landscaped it will increase the aesthetics of the block. Also by placing an open area at mid-block, the design opens up the space and gives relief from the visual clutter of closely spaced, narrow house ends. To create a larger recreational space suitable for a playground, one of the houses can be eliminated from a lot adjacent to the pathway. If a utilitarian layout is necessary, Example 3 provides the best opportunities for encouraging the claiming of secondary territory and improved aesthetics.

### **Type Three – House Front Parallel to Street**

The Type Three examples all provide for a variety of shared community spaces. The houses face onto a street which provides not only vehicle access, but with traffic calming devices such as street trees, also provide a safe pathway for pedestrians. The designs also provide for a pedestrian pathway perpendicular to the block's organizing street. In Examples 1 and 2, this pathway runs along or close by the local collector street for the

neighborhood. This could reduce both the aesthetic and comfort experience of the users. Example 3 moves the pathway to mid-block. This location has potential for increasing the aesthetic experience and comfort levels of the users. More importantly it serves to bring the focus of the block to the center rather than disperse it to the end of the block. This may enhance the residents' claiming it as a secondary territory.

In Examples 1 and 2, the recreational space is located at the end of the block. This location invites use by residents from surrounding blocks. This is a positive if the space is to be used as a recreational space only. If the space is also a place for block residents to pick up their mail and gather, than it would be better located at the center of the block as in Example 3. Locating a playground at the end of the block on the neighborhood collector street also decreases the safety for children. If safety is a major concern, then it would be better to locate the play space at mid block.

### **Conclusions**

The three lot types discussed in Chapter 3.4 lend themselves to varying designs for block types. Deciding which lot and block type are best suited for a particular design will depend upon many factors: topography, cost of land, a body of water or other natural feature, the number of homes to be accommodated, the character of the surrounding neighborhoods and the desired character of the new development. The block typology shows that no matter what lot layout is chosen, it is possible to organize the neighborhood around a hierarchy of usable, shared community spaces that encourage the claiming of secondary territory and help promote a sense of community.

### **(Footnotes)**

<sup>1</sup> See appendix for complete manufactured housing code.

<sup>2</sup> See appendix for complete manufactured housing code.