ZERO LOT LINE DEVELOPMENT: A HOUSING STRATEGY FOR THE FUTURE

BY

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B.G.S., Kansas University, 1980

A MASTER'S REPORT

submitted in partial fullfilment of the

requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

College of Architecture and Design

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1988

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Contents

Illustrations

Figures

Tables

Cases

1. Chrinko v South Brunswick Tp. Planning Board, 77 NJ Super at 600-602, 187 A2d at 225-226.

2. Dooley v. Town Planning and Zoning Commission of Town of Fairfield, 154 Conn 470, 226 A2d 509 (1967).

3. Montcrest Estates, Inc. v. Mayor and Township Committee of Rockaway Tp., 96 NJ Super 149, 232 A2d 674 (App Div 1967).

CHAPTER ONE

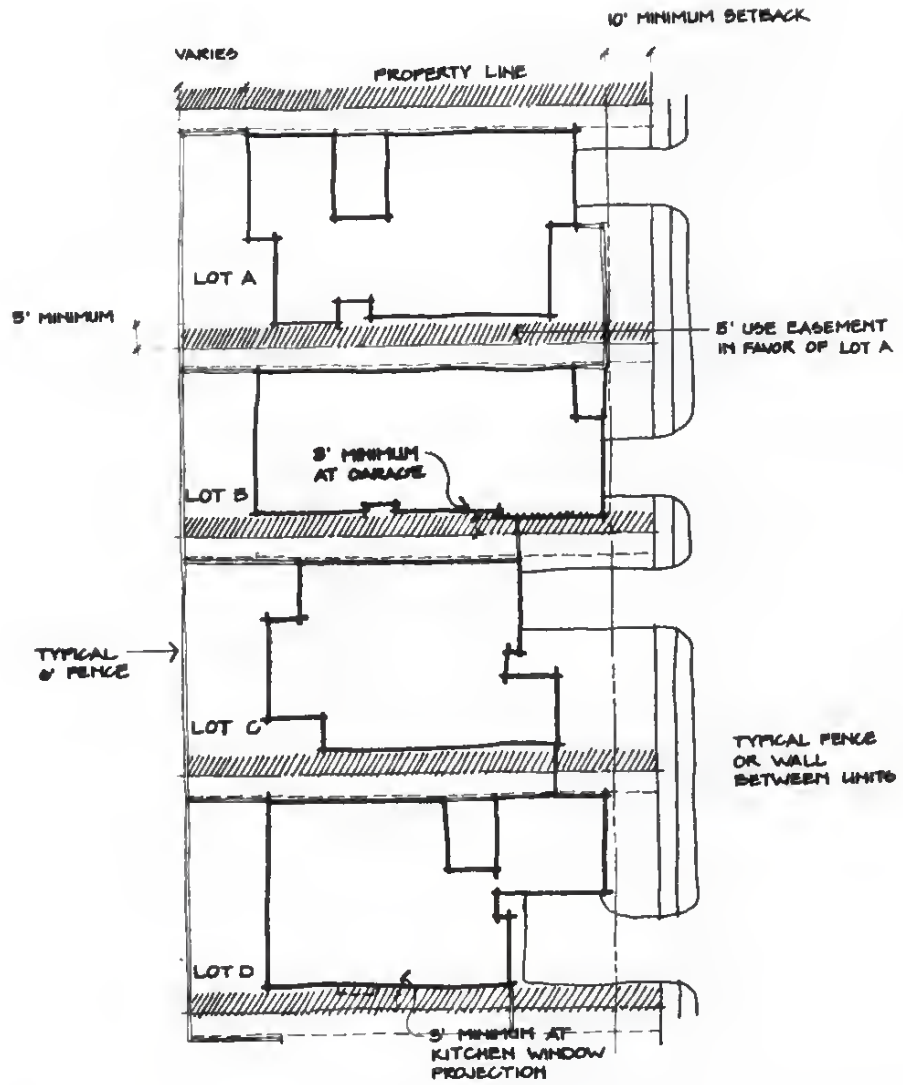
Introduction

For many Americans the "Great American Dream" of owning a single-family detached house on a large lot appears to be an unattainable goal. The cost of land, construction, and money have driven the price of housing out of the range of many Americans. One method to bring families within reach of a attainable housing goal is the use of zero lot line development, a method of development that can reduce the cost of housing by reducing the size of lots and allowing higher density.

There are many variations of zero lot line (ZLL) development. "In the purest form the single-family detached dwelling unit is placed on the lot so that it sits along one or more lot lines, hence, a zero setback (Jensen 1981)." Different allowances for ZLL development include variations of traditional setbacks by using easements allowing the zero lot line configuration, or the arrangement of connected units with the lot line bisecting them, depending upon local regulations. (Jensen, 1981).

The ideal ZLL house combines many features of the detached home with higher density patterns and thus presents, for selected markets, a desirable product.

Figure 1. Zero Lot Line Development



ZLL is simply moving the house onto the adjacent property line. The most common variation is the placement of the house three to five feet from the adjacent property line and the provision of a use easement along that side of the unit.

Source: (Jensen, 1981; p. 11)

However, with the use of the ZLL home, and the increased density, care must be taken in the design and siting to insure a privacy and livability equivalent to that offered in a more conventional subdivision (Jensen, 1981).

Additional benefits of the ZLL home conform to the trends and forces in this nation's economy and the desire to conserve space, energy, and other resources for the future.

FUTURE TRENDS AND FORCES

Population Characteristics:

The communities in which we live and work will be experiencing major changes in composition and lifestyles in the future. The demographic characteristics of the next 20 years will be much different than those of the 1950's, 1960's, or 1970's. Approximately 17 million new households can be expected by the 1990's, depending upon economic forces, divorce rates, marriage ages, and housing choices of the elderly (ULI 1981). Although this number is only slightly higher than in the 1970's, the age, composition, and size of new households is significantly different from the past. This increase in number of households and the composition of these households will put pressure on the supply, type and location of housing units.

The postwar "baby boom" is maturing. In the 1980's the age group 25-44 will increase by 33 percent. Of the 17 million new households to be formed, almost one-third will be from the 24-34 age group and another two-fifths will be in the 35-44 age group. On the other end of the spectrum, the elderly population will grow rapidly. The number of persons aged 65 or over will increase by more than 19 percent. Almost one-quarter of the new households formed in the 1980's will be elderly households." (ULI, 1981)

> The changing age structure of population, housing supply and affordability, increasing divorce rates, and decreasing fertility rates are among the factors that will affect the size and composition of households in the 1980's. Household sizes have been shrinking since 1950, and this trend is expected to continue. (p.50)

Household living arrangements are becoming more diverse, with fewer "traditional" family households. For a number of decades, 7 out of 10 households have been composed of married couples, with or without children. The typical buyers for these new housing units were married couples with 2 or 3 children. However, the types of households wanting to buy new housing units are diversifying. By 1990, the traditional household will decrease to 6 out of 10 and the non-traditional households will continue to grow. The Populations Reports conducted in 1980 by the Census Bureau showed an increase in one-parent households,

single households, and unrelated individuals. (ULI, 1981)

> "Of the 17 million new households formed in the 1980's, it is anticipated that 51 percent will be composed of single persons, many of them elderly, and unrelated individuals, that 22 percent will be single-parent families, and that only 27 percent will contain married couples. (pg.50)

Shifts in population characteristics such as; growth in rural populations, growth in downtown neighborhoods, and growth in suburban areas, entails changes in perceptions of community and housing. In turn, this translates into changed demands for land and housing.

Traditional methods of designing subdivision will not fit the demography of the future. Areas that insist upon continuing outmoded ways will stagnate or become political battlegrounds. The baby boom generation represents a very important and large voting block, "capable of exerting political pressures at all levels of government to make its needs heard, not the least of which will be affordable housing. (ULI, 1981)."

Energy Costs

For many years the growth that has been taking place in the United States reflected the perception of an endless supply of cheap energy. The amount of energy consumed by structures was not a major factor for consideration by builders, designers, architects, engineers, or public officials because the percentage

of total operating expenses that were energy related were relatively small. The use of better building techniques, energy efficient siting, or more efficient systems have not been widely utilized. Inexpensive energy, coupled with a dramatic rise in car ownership, and the building of an extensive road system, enabled homeowners to live at greater distances from their place of employment.

Energy is no longer a cheap commodity, and as we search for different forms and alternatives to the dwindling and uncertain supply of petroleum products, we are only reevaluating the way in which we use energy. The ways in which it is used are being reconsidered (ULI, 1981). As stated in the Home Builders Publisher's Letter, 1985, it has become clear that patterns and characteristics of physical development are significant influences on energy consumption.

Increasing Costs of Housing

The average price of a new single-family home in 1980 was $76,300 (U.S. Bureau of the Census, 1981). In some market areas the price is even higher. First time home buyers are being priced out of the market. In the last decade, housing costs have outpaced increases in median family income (NAHB, 1979). In 1970 almost half of the families in the United States could afford the median

priced single-family home, while in 1980 less than 25 percent could (NAHB, 1982). In 1986 the average price of a new home was $117,400 approximately three times the cost of housing in 1970 (NAHB, 1987).

Housing to fit the needs and the income of the households of today and the future is not being built. A survey, conducted by Professional Builder, showed that over half of the nation's home builders in 1980 were constructing houses that could not be considered affordable to median-income families. This directly affects first-time home buyers who already lack the money for a down-payment and are unable to meet monthly payments.

There are many reasons for the increasing costs of housing. Some of the most important are high interest rates, the increase in the cost of land, the increase in the cost of building materials, changes in city standards for public utilities and right-of-ways, and longer regulatory delays that add to the cost of development. In many local housing markets, regulatory controls have kept higher density single family units from being built by requiring expensive and lengthy review processes.

Marketability of Non-Traditional Housing

A major hurdle to more widespread acceptance of the need to modernize development policies is a popular

assumption that the American home buyer has a single preference for lifestyle and shelter . This assumption is not correct; new patterns of preferences and consumption are emerging due to varying economic circumstances and diverse household types. (ULI, 1981)

While the large lot, single story ranch style house is the traditional favorite, first time home buyers prefer two-story houses and are more inclined to buy attached housing (Professional Builder, 1981). Conveniently located, smaller units are increasingly viewed as more suitable to the requirements of older households, newly divorced and younger singles or couples. (ULI, 1981)

Due to the current trends, the popularity and acceptability of ZLL development may increase. The increase in housing costs and the lack of moderately priced housing is creating isolation of social and ethnic groups. This trend will continue as long as housing cost increases exceed income increases. ZLL housing can improve the stability and quality of neighborhoods by providing more affordable housing for a wider range of incomes. (Jensen, 1981).

The trend toward smaller family sizes decreases the need for all homes to have large yard spaces. With more women in the work force, the trend for smaller families will continue. ZLL development allows for

small side yards to be more effectively used for open space. Also, the increase in density and the decrease in lot size allows for lower unit costs. Overall, the U.S. population is maturing and the predominately single-level design of ZLL will be attractive to older markets (Jensen). The money that is saved on land acquisition can be utilized to decrease the cost of the units or to add additional amenities and features.

The ZLL homes are also energy efficient. With one wall completely free of openings, the loss of heat is reduced. The design of ZLL homes allows for most of the windows to face enclosed exterior spaces, where a protected micro-climate can be provided to protect the living environment from harsh winter winds and the summer sun.

CHAPTER TWO

THE DEVELOPMENT AND CHANGES OF THE ZLL CONCEPT PAST TO PRESENT.

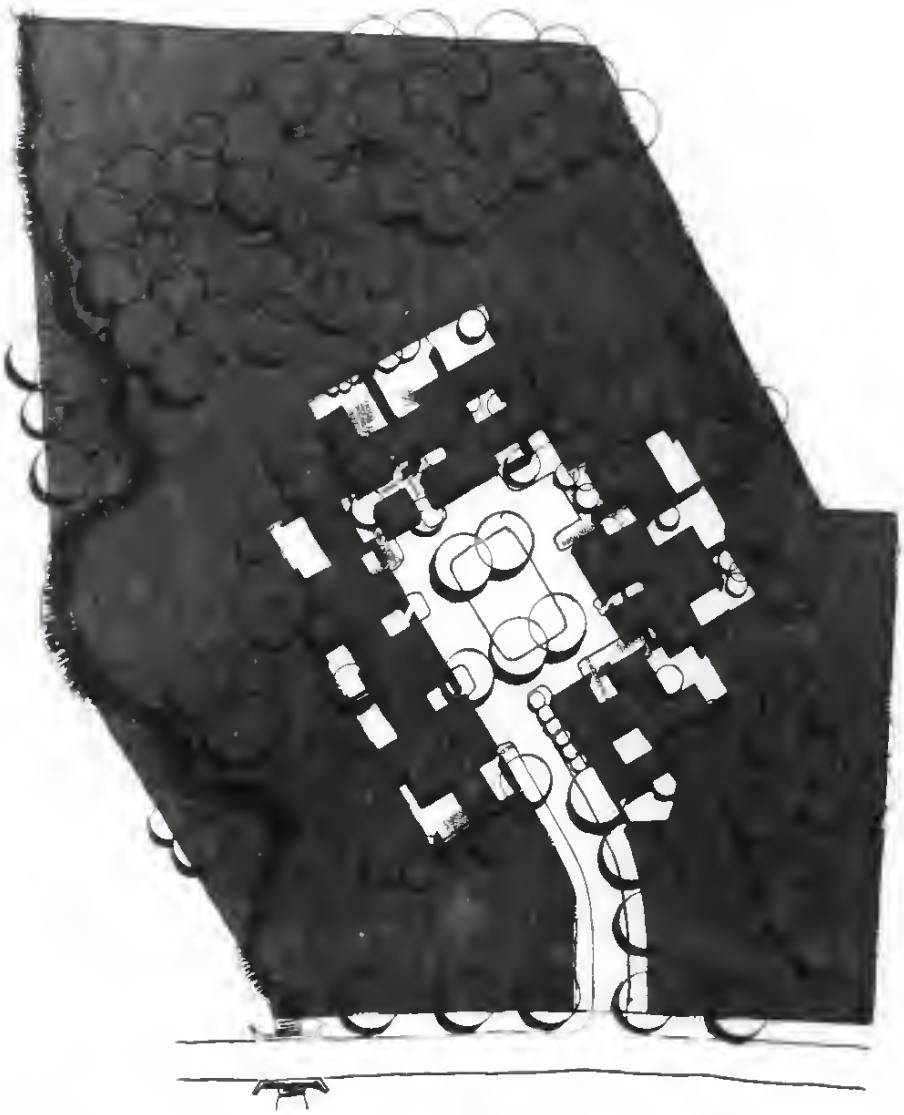
Variations of zero lot line (ZLL) development date back 4,000 years to housing designs such as; atrium houses, patio houses, or court houses. The atrium house was an early type of urban housing which was predominant in ancient Egypt, Greece and Rome. It existed as a single-family dwelling unit with one (1) or more courts partially or completely surrounded by living areas. City sizes were restricted and the court house provided the greatest densities at low building height (Jensen, 1981).

With some regional variations, the atrium version of the ZLL house existed in Northern Africa and the Far East. The Moorish invasion of the Iberian Peninsula may have introduced it to Spain, and the Spanish colonist introduced it to Latin America, where it is still a dominant dwelling type to this day (Jensen, 1981).

In spite of the long history of ZLL forms of housing, this type of development has captured only a portion of the market in the United States. World-wide, this type of housing has not been widely accepted where it was not indigenous. Some attempts were made to introduce

Figure 2. Atrium House

The atrium house is similar to, though distinct from, the patio house. It differs from the patio house in three respects: it has a smaller lot and yard, it is an attached unit, and it is a single story unit. A small private yard is surrounded by the house and its walls; privacy is guaranteed. It appeals to persons without children who want privacy and do not want a maintenance responsibility. It is ideal for the elderly, because it is a single story home with minimal exterior maintenance responsibilities.



DENSITY	1.55
OPEN SPACE RATIO	.78
IMPERVIOUS SURFACE RATIO	.13

Source: (Kendig, 1980; p. 57)

Figure 3. Patio House.

The patio house is a single family detached or semi-detached unit. It is built on a small lot enclosed by walls which provide privacy. If the walls are ignored, its layout may be similar to either the zero lot line or twin house; thus, it may be built either as a detached or semi-detached dwelling. The patio house appeals to those who want privacy without the maintenance of a larger yard.

DENSITY	1.55
OPEN SPACE RATIO	.75
IMPERVIOUS SURFACE RATIO	.11

Source: (Kendig, 1980; p. 56)

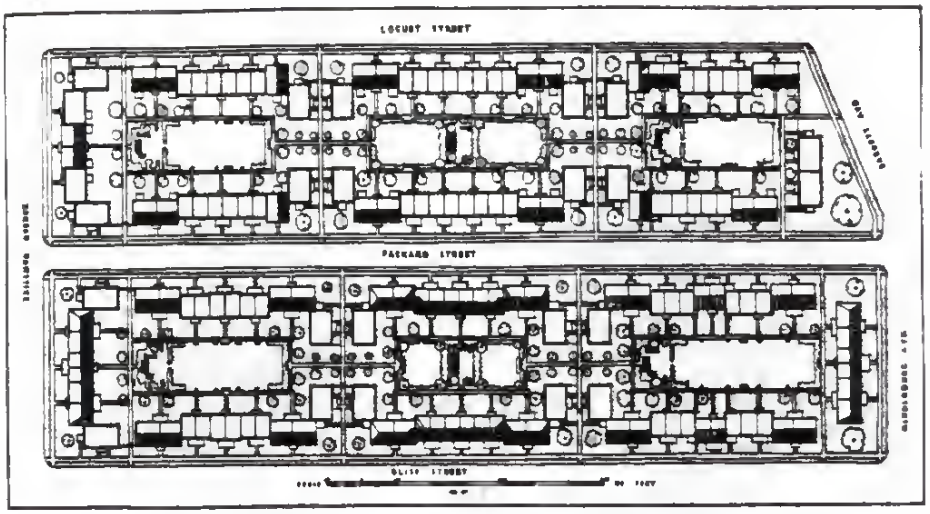
ZLL development to the United States after World War I, but this met with limited success (Jensen, 1981). Modern versions were accepted in Tunis after World War II, but these housing forms are indigenous to that area (Jensen, 1981). The northern hemisphere has no tradition in the indigenous population, with either the Eskimo or the American Indian for this type of development. The early immigrants were leaving overcrowded European cities and desired large open spaces and low density development (Hayden, 1976).

Recent applications of ZLL types of development have not been limited to warm climates. Since 1950, there has been successful development in northern areas, such as Denmark, Sweden, England, and Canada. However, most of this ZLL development has been in the form of attached row-type housing. Advantages of ZLL development that were cited have been privacy, adaptability to the natural terrain, an improved residential living environment, and the economic use of the land. The northern climates found the ZLL concept suitable for both urban and suburban environments and as an economical response to high cost infill parcels.

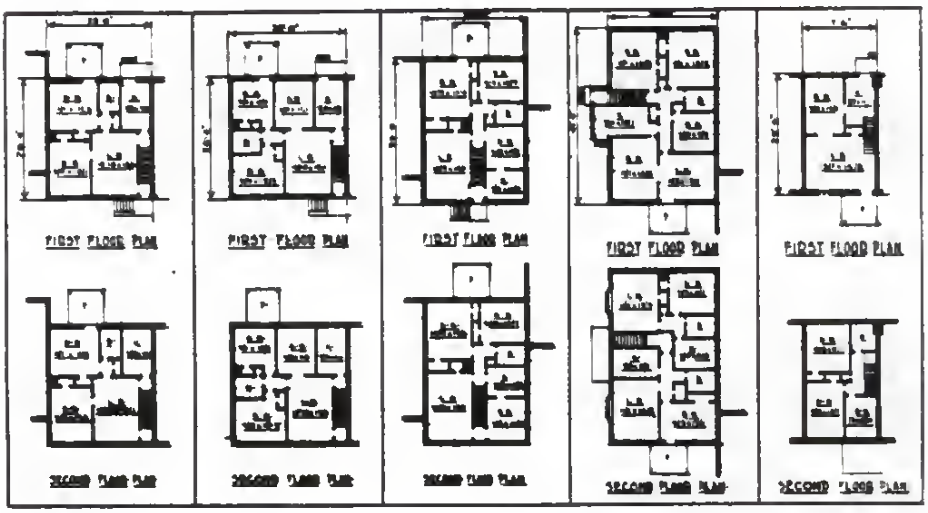
Development in the United States

Trends in housing layouts leading up to the present ZLL concept of development in the United States

Figure 4. Sunnyside Gardens, New York.



Plan of two blocks with inner courts, built in 1926.
Sunnyside Gardens Development, New York.



House types, showing single, two and three family houses.

Source: (Stein, 1957; p. 29)

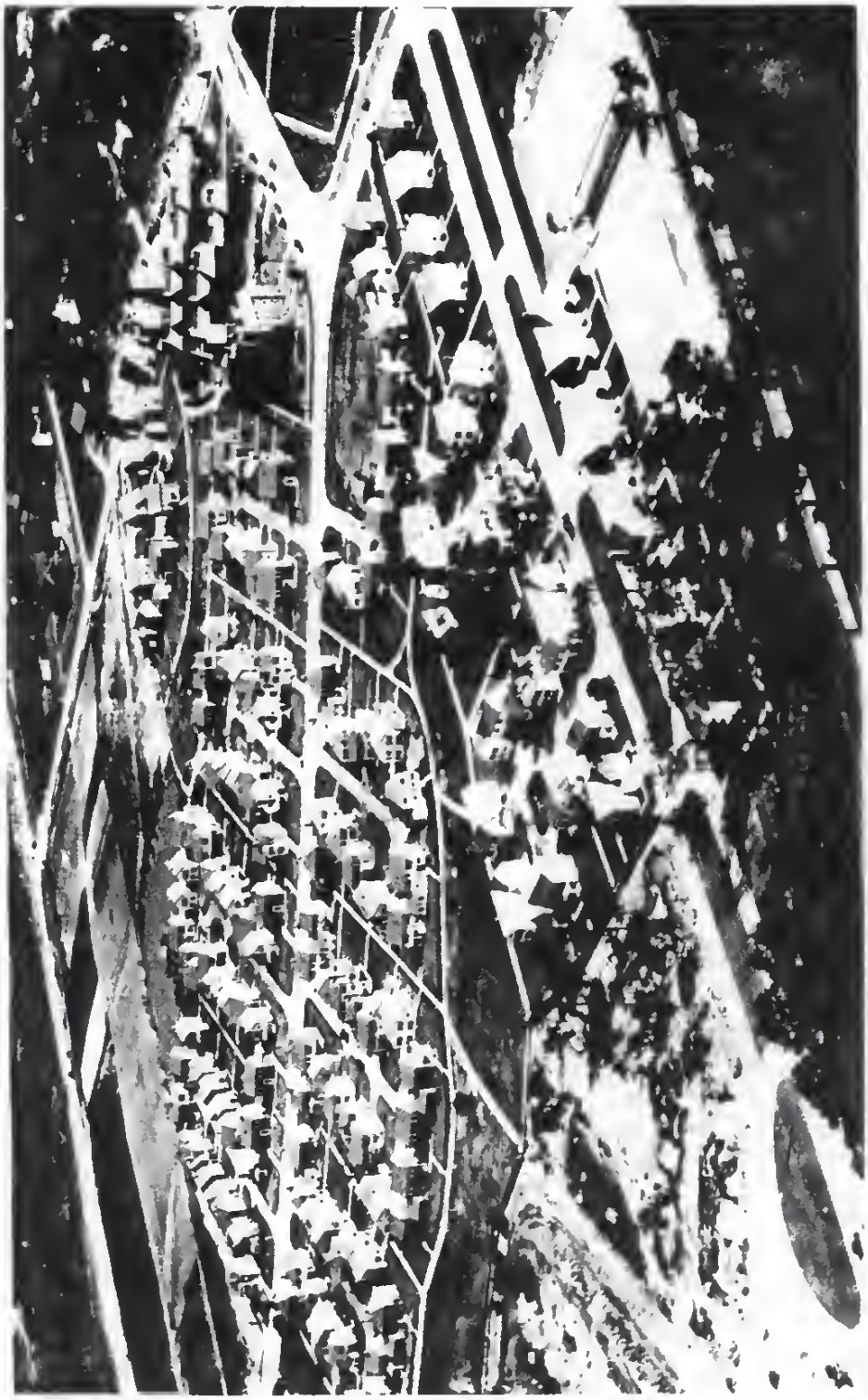
Figure 5. Radburn, New Jersey Site Plan.

Plan of the residential districts, dated November, 1929.

Source: (Stein, 1957; p. 43)

Figure 6. Radburn, New Jersey.

Source: (Stein, 1957; p. 46)

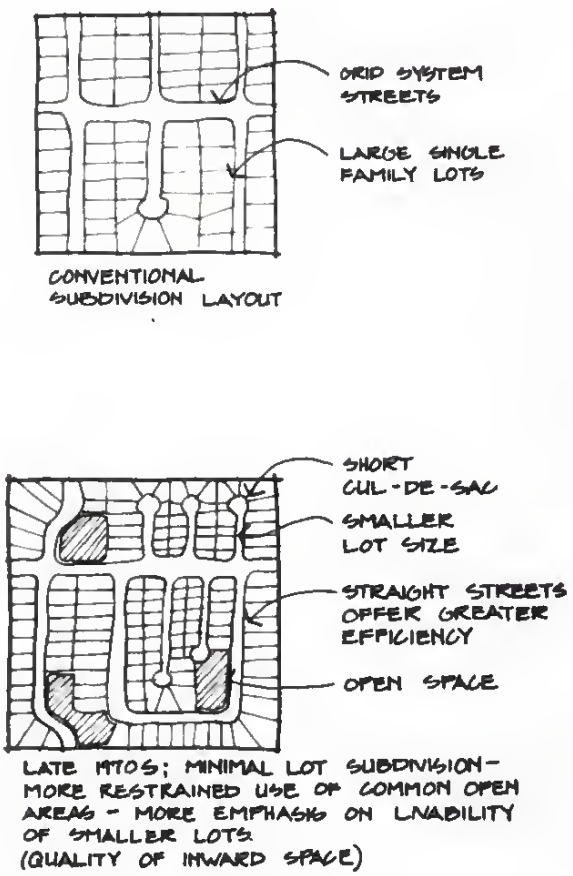


probably began with Clarence Stein's and Henry Wright's construction in 1924 of Sunnyside Gardens at a site on Long Island near New York City. Sunnyside provided townhouses and garden apartments with varying setbacks on full block lots, eliminating the narrow side yards and small rear yards of speculative lot-by-lot subdivisions. The land was pooled into large common center block parks and playgrounds. Another model project by Stein and Wright was at Radburn, New Jersey. Built to serve as a model suburb development, they created large superblocks containing central block parks bounded by two story single-family houses. Pedestrian paths led from the houses through the center block parks to local schools and shopping, thus separating pedestrian and vehicular traffic (ICMA, 1979). What was demonstrated by group planning at Sunnyside, and even more at Radburn, was the possibility of preserving open spaces for natural green areas, for recreation, light, healthful living, and for more spacious living without additional cost, in fact at less than the normal price (Stein, 1957).

Development Trends in the 1950's and 1960's

In the United States a more direct evolution of ZLL development can be traced to clustering and then to the Planned Unit Development (PUD) concept of the 1960's.

Figure 7. Evolution of Cluster Type Development.

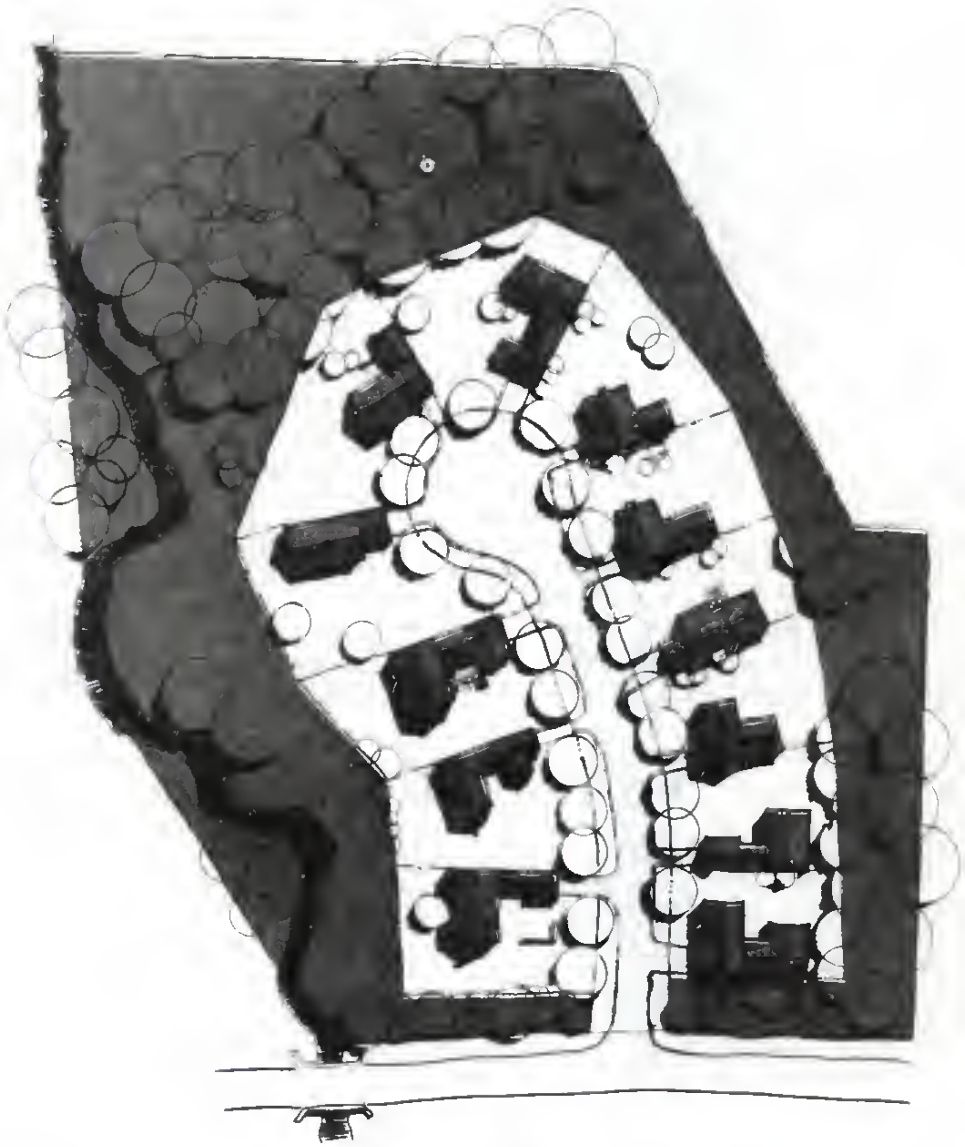


Direct evolution can be traced to clustering and then to the planned unit development concept of the 1960's.

Source: (Sanders and Mosena, 1982; pp. 18-19)

Figure 8. Zero Lot Line House.

The zero lot lines house is a single family detached unit which, instead of being centered on the lot, is placed against one of the side lot lines. This makes the side yard usable and requires less land than a house centered on its lot. The front yard, which is seldom used, may be substantially reduced.



DENSITY	1.55
OPEN SPACE RATIO	.75
IMPERVIOUS SURFACE RATIO	.11

Source: (Kendig, 1980; p. 56)

During that time, grouping dwellings closer together in order to preserve open space became a popular practice.

Clustering allows the developer to develop lots smaller than those specified by the zoning district, provided a portion of the land saved is reserved for common use open space. The cluster site design allows a more economical use of the site than the conventional subdivision would. The conventional subdivision covers the entire site to get the maximum number of lots permitted per acre. However, this is often not possible due to terrain constraints. Clustering, however, allows the developer the maximum allowable density. One planner explained, in Cluster: An Old Formula Solves New Problems,

> "Conventional subdivisions usually don't achieve the full number of permissable lots per acre because of site plan inefficiency. For example, one of our staff determined that existing conventional subdivisions typically net only 1.75 dwelling units per acre, in districts where two dwelling units per acre are allowed. With a cluster plan a developer can always plat two dwelling units per acre. (p.36)

In addition to its potential as a cost-effective concept, clustering is also an environmentally prudent form of site design. The cluster development concentrates dwelling units on the buildable sections of the tract and preserves natural drainage systems, natural features that control stormwater runoff, and

soil erosion and open space. Energy is saved in cluster at the construction phase of the development by the reduction in street lengths and utility installations. Later savings of energy in street maintenance, water connections, electricity and garbage collection can be seen. This savings, it should be noted, is offset slightly depending upon the type of open space and the cost for open space upkeep.

Table 1. **SUMMARY OF SITE DEVELOPMENT COSTS**

	CONVENTIONAL		CLUSTER	
	Total Costs	Costs/DU	Total Costs	Costs/DU
Street Pavement	$ 862,165	$ 1,827	$ 540,569	$1,145
Curbs and Guttars	433,872	918	—	—
Street Trees	412,496	874	374,640	794
Drivaways	743,400	1,575	527,715	1,213
Storm Drainage	696,464	1,476	278,295	590
Water Distribution	746,044	1,581	492,792	1,044
Sanitary Sewar	1,142,647	2,421	1,009,601	2,139
Grading	332,044	703	220,755	468
Clearing/Grubbing	156,915	332	109,785	233
Sidawalks	209,250	443	197,775	419
Subtotal	$5,735,296	$12,151	$3,751,927	$8,045
Engineering Fees (5.8%)	332,647	705	217,612	467
Total	**$6,067,945**	**$12,856**	**$3,969,539**	**$8,512**
Actual Difference on a per lot basis		4,344		
% of Conventional lot cost		100%		66%

Source: (NAHB, 1986; p. 119)

The Planned Unit Development (PUD) concept is a culmination of ideas in planning which call for a program-oriented, mid-range plan, which is legally binding upon participants. The PUD allows flexibility

in land use by emphasizing a mixture of land uses, unit development, and wide-ranging administrative discretion to local officials. The PUD process also continues a movement away from preset zoning and subdivision regulations and provides a method that allows the city and developer to achieve efficiency through bargaining. As a result, the developer has a streamlined platting process and the potential for larger profits in exchange for an increase in the city's site plan review powers and a procedural mechanism for assembling usable amounts of open space to effectively control the timing and sequence of development.

ZLL Development by Right

The ZLL approach came into being because of the desire to more efficiently utilize the smaller lots which resulted from clustering. In response to housing market changes in some areas, development standards are also changing. The zoning ordinances and subdivision regulations that were used to plan the traditional single family tract housing developments of the 1960's and 1970's may not be appropriate for future housing markets. Adjustments have been made in how new construction and rehabilitation of existing housing units are regulated. Some communities are taking steps to reform their development standards and lower housing

costs by increasing densities, by lowering excessive site improvement requirements, and by giving developers and home builders more of the design flexibility that is needed to respond to the changes that are taking place in the nation's housing markets. For example, Dade County, Florida, an urban county, established an ongoing review and revision process that enabled the county to make changes in development standards as needed to keep its ordinance current and in tune with the housing market in Florida. Under this approach, the county has been able to develop and adopt what may be the most flexible and comprehensive set of provisions for zero lot line housing in the country (Sanders and Mosena, 1982). (The Dade County, Florida, zero lot line ordinance is included in the appendix.)

Summary

The evolution of zero lot line development is a response to the trend toward smaller family sizes and more women in the work force pursuing professional goals. This trend will continue. ZLL, combined with clustering, allows the excess yards to be combined for usable open space. Also, the addition of more lots allows lower per-unit costs. Money saved in land and development costs can be used to reduce the sales price of the house or overall development.

CHAPTER THREE

LEGAL CONSIDERATIONS

Legal Problems

Nearly all innovations in planning implementation have brought legal challenges. The ZLL concept as a cluster-type development is no exception. Cluster-type provisions do create some obvious legal problems, but there has been very little case law on the subject. When the provisions for cluster development are appropriately drawn, they should not raise any serious constitutional issues (Williams, 1974).

> The power to regulate density is well recognized and cluster zoning is merely an alternative method of exercising such power. Moreover, the provision of open space is another prime and well recognized purpose of zoning; and any arrangement which provides more open space would seem to be in a strong legal position. (p. 214)

However, whether such provision would currently be authorized under the present zoning enabling legislation is unclear. The Standard Act provides a list of devices which are authorized, and apart from specific statutory authorization, the case for cluster-style development can be made since it is an appropriate measure to promote some of the general provisions in the act, particularly to prevent the

overcrowding of land (Williams, 1974).

In the absence of special enabling legislation, the most important test of the legal status of cluster style zoning was Chrinko V. South Brunswick Township Planning Board.[1] South Brunswick Township, located in the heart of a prime growth area between New Brunswick and Trenton, New Jersey, experienced an increase in population growth from 4,001 in 1950 to 10,278 in 1960. During this time, a single subdivision added 6,000 people resulting in heavy demands on the existing infrastructure. In response to the rapid growth and a new 235 acre subdivision with preliminary approval, local officials adopted a cluster subdivision provision in 1962. The amendment allowed a reduction of lot size and lot frontage in varying amounts from 10 to 30 percent, providing that the land that was saved would be dedicated to the township as open space. The developer amended his plan accordingly, and the development was approved as a cluster subdivision.

A suit was filed by a local landowner against the township charging that: (1) The ordinance was adopted to serve a special interest group of developers; (2) New Jersey statues required uniformity within a zoning district; and (3) The township's comprehensive plan did not call for this type of zoning. The lower court

upheld approval of the cluster subdivision, and the zoning ordinance on which it was based in a strong opinion which discussed both density control and the need for open space due to the rapid and "piece-meal" development at the suburban fringe. The court noted the importance of preserving open space in developing areas and the opinion further upheld cluster zoning on both constitutional and statutory grounds, as a reasonable method of density control. The decision also noted that the cluster provision did not violate the uniformity requirements, since it was equally available to all developers. (Williams, 1974).

> Although the state zoning law does not in so many words empower municipalities to provide an option to developers for cluster or density zoning, such an ordinance reasonably advances the legislative purposes of securing open spaces, preventing overcrowding and undue concentration of population, and promoting the general welfare. Nor is it an objection that uniformity of regulations is required within a zoning district. Such a legislative technique accomplishes uniformity because the option is open to all developers within a zoning district and escapes the vice that it is compulsory. (p. 216)

A cluster zoning ordinance, which was the subject of another New Jersey opinion[2], provided for a reduction of lot area requirements from 13,175 square feet to 10,625 square feet, provided that an equivalent amount of land was dedicated to the public, (which would

maintain the overall density for the entire tract.) This ordinance was held void in the intermediate appellate court, for two reasons. First, the use of the land was not limited to public use, and might be used for something that would not be compatible with residential uses, such as a sewage disposal plant. Second, there were no standards provided to guide the planning commission's decision on the location and shape of the tract.

The cluster principle has also come up in other ways, for example, in connection with rezoning of areas with different building types. To illustrate, an area with difficult terrain or drainage problems could be rezoned from a single-family/duplex district, where open space occurs only on the individual lots, to a garden apartment district where open space is pooled, making it possible to build on the most suitable part of the tract and to concentrate common open space on other parts of the tract which may be more appropriately used for recreational activities or to maintain a buffer between developments. In a Southport, Connecticut case[3] a 12 acre site of hill, rocky and wooded terrain was rezoned from a duplex district to a "design garden apartment district" subject to site plan review. This resulted in a garden apartment project with 11.7 percent coverage and substantial common open space. In

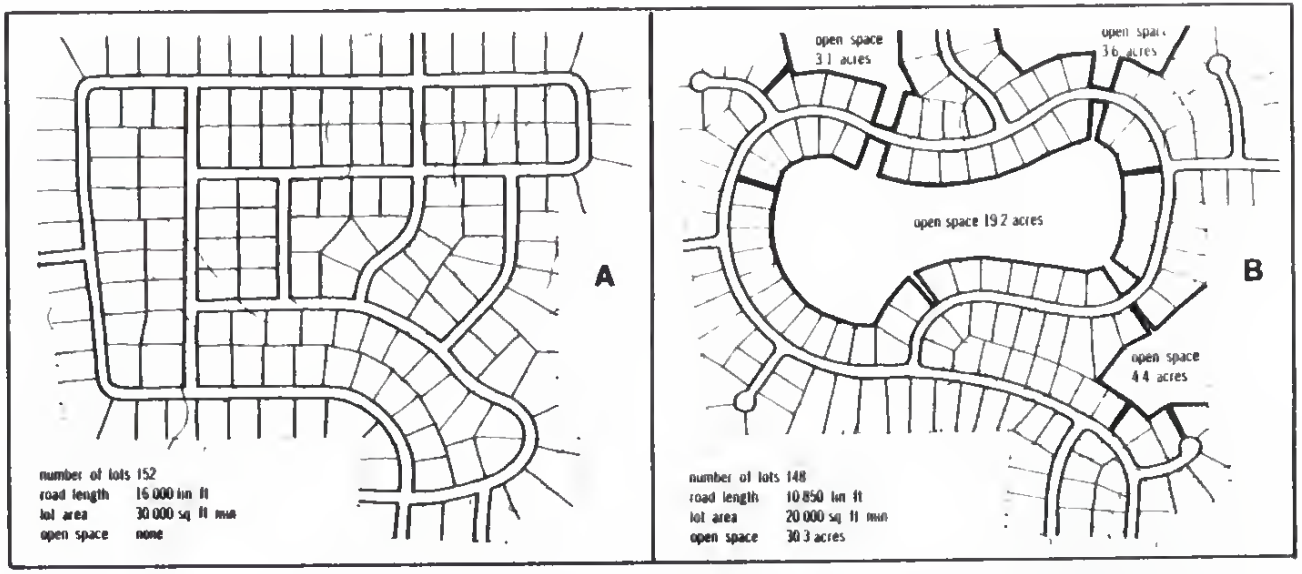


Figure 9. A comparison of the conventional (A) and cluster (B) subdivisions.

Source: (Sanders, 1980; p. 1)

upholding the zoning ordinance, the opinion cited testimony that if the dwellings could be clustered on those parts that were easiest to develop, leaving the rougher topography which would be more appropriate as open space (Williams, 1974).

> A memorandum of a professional planner was presented to the commission and showed that the proposed subdivision under a residence B district zone would yield land coverage of 15.3 percent and no open space, whereas development under a DRD-1 zone would yield 2.5 acres of open space and involve only 11.7 percent land coverage. The commission, in view of this comparison, was in a position to conclude that the change of zone requested might enhance the use of the property rather than downgrade it since there would be more open space, with fewer driveways, heating units and other accessories, than if two-family houses were constructed under the existing zoning regulations.
>
> From these, the commission had before it evidence that the property consisted of 12.34 acres of hilly, rocky, heavily wooded and undeveloped land, and that many of the houses in the surrounding area were modest bungalow-type single and two-family houses. The commission also had before it a statement of a realtor that a change to DRD-1 zone would permit the property to be developed in a more desireable manner from the standpoint of construction economics and design since the high cost of site work required to clear trees and ledge would be less and there would be opportunities to cluster the proposed town houses or garden apartments in carefully designed units. The plaintiff describes the property in question as a classic example of marginal land left behind during a long period of one-family residential development. (pp. 220-221)

If a community decides to permit cluster-type subdivisions, they should be aware of some very real problems which may arise in the implementation of the device; this is due in part to the newness of the concept, and also because of the range of possible layouts. In such a situation, it would be wise for the planning board to consider such problems, and to work out a list of principles indicating preferred types of subdivision layouts and should make these available to developers (Sanders, 1980).

Some of the subject matter that experts in planning feel are appropriate for such a statement are set forth below (Williams, 1974):

> 1. There should, of course, be a statement of purposes, preferably in the ordinance itself. Such a statement may include (a) to make possible better uses of sites, in the light of topography and other similar considerations, (b) to encourage more common open space, and (c) to make possible more economical development of the site, particularly by reducing the length of streets.
>
> 2. A better use of the site will usually involve considerable variety in layout-in the size of lots, in the placement of buildings, etc. In particular, such an approach will avoid long unbroken rows of buildings (especially attached buildings), all with uniform front yards. One implication of such a policy is that there should not be a flat policy of maximum (or, for that matter, minimum) reductions in lot size.
>
> 3. Respect existing topographical features-trees, streams, etc.-and otherwise minimize the impact on ecological processes.

4. At least one common open area should be in a single large parcel, covering perhaps at least 10 percent of the total area. (Query whether arrangements emphasizing narrow strips should be discouraged or forbidden.)

5. The criteria for selecting land to be left in common open space should be spelled out explicitly-probably including streams, wetlands, and rock outcrops, large trees which are longlived, etc.

6. The overall design should encourage the visual continuity of open space; and all lots should have access to common open space, either directly or by a pedestrian way designed for that purpose.

7. On the arrangements of streets, it is important to avoid having secondary (collector) streets (and of course main highways) passing through the center of the subdivision; if such streets are essential, no lots should front directly upon them.

8. There should, of course, be a buffer strip along the edge of the cluster subdivision to minimize the impact on the adjacent land, which will normally have larger lots.

9. A policy is also needed on the extent to which common open space should be dedicated to the public use, or left to a property owners' association. (pp. 221-222)

Legal Implications for ZLL Development

The development of ZLL housing is common in California, Florida, Hawaii, Arizona, and a few other states, but has been limited in many parts of the United States. Due to the newness of the concept, most local zoning ordinances are not written to allow ZLL development by right, but require either the costly

processing procedure of a PUD or a variance. Both of these methods usually require a longer processing time, and with the PUD more "front-end" costs such as, landscaping plans and specific locations for lot lines and structure placement before the developer is assured of the appropriate zoning.

However, ZLL developments can be built, by right, under standard classification by altering bulk regulations, lot size, lot frontage and setbacks (Jensen, 1981). This will be discussed in greater detail in Chapter Four.

Legal questions arising from ZLL development are primarily a result of the access and maintenance easements needed to maintain the zero walls. The upkeep of the zero wall is necessary for safety and aesthetic reasons, and has caused disputes between neighbors over the amount of space needed for an easement, the time the access should be granted, and the use of certain materials and equipment during the maintenance activity. Careful attention in the site planning stage should allow sufficient space for personnel and equipment to accomplish maintenance tasks; for example, easements should provide enough space for ladders, compressors, lawn mowers, and other maintenance equipment to move freely (Jensen, 1981).

It should also be stated in the projects covenants that in those rare situations, where no agreement can be reached by the parties involved, there is an existing arbitration policy. This policy is based on the knowledge and understanding of all owners of the importance, both structurally and aesthetically, of the zero wall. (Jensen, 1981).

> "Each owner's rights pertaining to landscaping, erecting structures, and repairing such items due to possible damage by the other owner should be established. Rights for use of the party wall should be defined: Can vines be allowed to grow; Can trellises or shelves be attached; What is the responsibility for resulting damage, and can the developer/builder attach a trellis or sculpture during construction?" (p. 109)

The need for a homeowner's association will vary depending upon the goals of the development concept: If common areas are included, or if there will be common maintenance of grounds or buildings, then a homeowner's association could be necessary. Special attention needs to be made to these items with limitations and procedures early in the design phase. Some homeowner's associations maintain front yard and exterior's of the building (painting every five years, etc.) as well as open space. If the homeowners association is eliminated, then special attention should be paid to the unit maintenance procedures, and any park or open space must be dedicated and maintained

by a governmental entity.

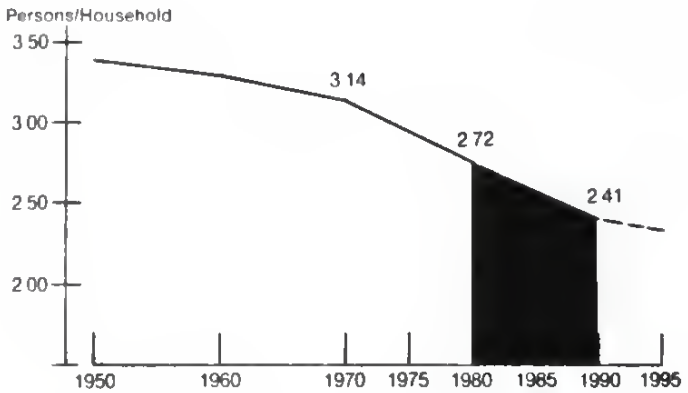
The legal implications of ZLL development are unique with regard to the zero wall, but the balance of the implications are typical to all other subdivisions, with or without a homeowner's association. The real estate agents must have a thorough understanding of the ZLL concept and of the requirements of the homeowner's association or any restrictive covenants so that prospective buyers fully understand any limitations of the property prior to sale (Jensen, 1981).

CHAPTER FOUR

Consumer Preferences and Marketing

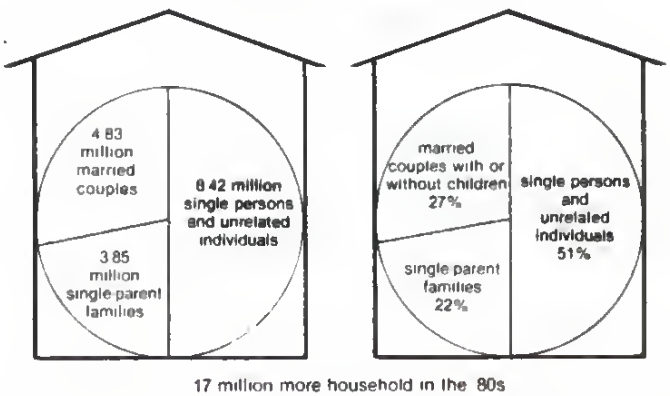
The American romance with the traditional single-family home may be coming to an end. In 1980, the proportion of household units occupied by owners declined for the first time in over forty years, and experts predict that this decline will continue (Sternlieb and Hughes, 1982). The proportion of new housing developments consisting of detached single-unit homes began to decline in 1975 and it appears that this trend will continue. Attached forms of owner-occupied single-unit housing increasing at a rate of over 72 percent compared to 26.5 percent increase for detached single-unit dwellings (Garrigan, 1983). American society has reached a historic turning point in home ownership (Sternlieb and Hughes, 1982). Homeownership is declining and the economic forces that have contributed to this development are seen by these analysts as long term and chronic conditions that will continue to affect the housing market in the foreseeable future.

Figure 10. DECREASING HOUSEHOLD SIZE.



Source: (U.S. Bureau of the Census, 1979; p. 453)

Figure 11. HOUSEHOLD COMPOSITION.



Source: U.S. Bureau of the Census, 1979; p. 453)

Housing Affordability

There is growing concern in this country for one of the most critical issues facing us today: The inability to produce sufficient affordable housing. During the 1980's, there has been a sizeable increase in the demand for housing. The country is witnessing an unprecedented increase in the rate of household formations; and many of the homebuyers' ages will range from 25 to 30 years old (members of the baby boom generation born after World War II). The increase in demand has driven housing costs up in the absence of the production of an adequate supply of units. More people may be in need of housing and less able to afford it than at anytime in modern history (Nolan, 1986).

A study conducted in 1981 found that even if interest rates declined, (Berger & Bertsch, 1981):

> "...the growing imbalance between demand for housing and the nation's ability to produce a sufficient quantity of shelter at an affordable cost portends a housing crisis of unparalleled dimensions during the 1980's. More households will find less housing for sale or rent, and then, often at a cost they cannot afford..." [4] (p.10)

Nationwide, most of the developers who are constructing residential units are building houses that cannot be considered affordable to median-income families (Schnidman & Silverman, 1983).

Data from 1982 indicated that, regardless of the household configuration or tenurial status, American households are spending a greater proportion of their income on housing than ever before (Sternlieb and Hughes, 1982). High interest rates and the increased cost of land, labor, materials, and energy, coupled with stagnation in real incomes, have caused an unprecedented decline in home buying power. The ratio of the sales price of new single-family homes to median family income increased from 2.37 to 3.07 between 1970 and 1980 (Sternlieb and Hughes, 1982). This increase, as well as high interest rates and mortgages that increasingly lift the risk from the lender to the borrower, have made homeownership an unrealistic goal for most new families and households.[5]

This economic reality is reflected in housing starts in 1981 and 1982. Housing starts were only one-half of the two million starts in both 1977 and 1978. Studies conducted in 1982 indicated that sales of new single-family homes had reached an all time low, and the median selling price of a new single-family home had reached the all-time high of $82,000 in late 1983 (Dayton Daily News, 1983). The homebuyer paid over five times more per month in 1983 for a new house than he would have paid in 1970.[6]

Most of the 17 million new families created in the 1980's will not be able to afford a new detached single-family home. This unprecedented decline in the home buying power of the American middle class is the primary factor shaping the housing industry in this country. The housing market is likely to turn increasingly toward rental housing and expensive alternative forms of owner-occupied new housing; forms of development that are likely to be prohibited in underdeveloped areas subject to restrictive single-family zoning (Garrigan, 1983).

Changing Household Characteristics

Changes that have occurred in household size and composition are also likely to reduce the future market trend for traditional detached homes.

Review of demographic data in 1982 by Sternlieb and Hughes sketched "the broader outlines of a metamorphosis of the American household" (pg. 15). Household size is steadily declining due to decreasing birth rates[7] and to the increasing number of households of elderly, divorced, and never-married persons.[8]

From 1950 to 1980, average household size has decreased from 3.37 to 2.75 persons, a decline of 18.4 percent (Bureau of the Census, 1980). This trend has accelerated during the late 1970's and early 1980's

(Sternlieb and Hughes, 1982).

The decline in household size is a significant factor in the market demand for new housing. Nearly one-half of the increase in total housing units between 1970 and 1980 is estimated to be the result of decreased household size.10 Decreased household size, coupled with housing's high cost, will likely increase demand for smaller and less expensive new housing development.

Perhaps the most important change in the nature of American households is the declining importance of the nuclear family. Married couples with children now comprise less than one-third of all households (Bureau of the Census, 1980). Between 1970 and 1980 nonfamily households, persons living alone or with nonrelatives, increased by over 73 percent, five times faster than family households (Sternlieb and Hughes, 1982). Households once considered atypical now dominate recent growth in household formation, and Census Bureau projections indicate that these trends are likely to continue through the 1990's. For example, from 1970 to 1980, husband and wife households increased by 7.7 percent, nonfamily households increased by 73.1 percent, female householders by 38.9 percent. The declining importance of the traditional nuclear family, the household unit most likely to prefer and to be able

to afford a detached single-family home, is likely to significantly affect the new housing market well into the 1990's.

Marketing

An increasing awareness that local land use controls may substantially increase housing costs has developed in recent years. As Dowall explains:

> "Local land use controls directly affect the cost of land and new housing. By restricting supply of developable land through the use of open space acquisition and agricultural zoning, or by limiting the extension of public facilities, land prices and new housing costs rise. Local regulations can also affect housing costs by placing onerous subdivision requirements on builders. Extensive review procedures, subdivision requirements, and limited land supplies may greatly affect the operation of many communities' land and housing markets.
>
> Besides regulating the physical stock on residential land, zoning ordinances directly affect the number of residential lots. Density and lot size requirements implicitly determine the supply of developable lots. Changes in local zoning ordinances, minimum lot size requirements, and other policies which affect the density of residential development, translate directly into lot supply changes."

Restrictive single-family zoning ordinances, developer exactions, and other environmental controls significantly increase the cost of new detached homes and alternative forms of housing in many areas. The Council on Development Choices found that local land use controls can increase the cost of new residential development. Prices of new homes reduced by as much as

33 percent through minor changes in restrictions, innovative design, and rapid processing of development applications in Boulder, Colorado. Restrictive single-family zoning ordinances limit the supply of building sites available for alternative forms of residential development such as ZLL. Such ordinances may also require expensive low-density, single-unit development through restrictions on building type, architectural style, yards, household composition, and lot size. The cost of new housing is increasing at a time when real income is stagnating, this is resulting in some communities and residents to realize the importance of affordable housing practices to reduce the cost of housing for middle-class families.

Personal Choices in Shelter and Location

A major roadblock to more widespread acceptance of the need to update development policies is the popular assumption that Americans have a single preference for shelter and lifestyle. This myth has never been less true. Varying economic circumstances and increasingly diverse household types are accompanied by new patterns of consumption and preferences (Council on Development, 1982).

While the detached single-story ranch style structure is the overall favorite, first-time buyers

prefer two-story houses and are more inclined than the general homebuying public to buy attached housing (Professional Builder, 1981).

Smaller houses in convenient locations are increasingly viewed as more suitable to the needs of older households as well as younger singles and couples. Neighborhoods designed for raising children, as for example, those made up of homes with several bedrooms and large yards, make up a reduced share of the new housing market, reflecting the dramatic decrease in the proportion of households with children. The market share of traditional three or four bedroom detached single-family homes on large lots will likely continue to decline as the new households and homeseekers choose to give greater emphasis to maintenance time and costs, and to amenities such as location, design, and recreation features (Council on Development Choices, 1983).

Market Considerations

There are two basic existing markets for ZLL developments; the shelter market in which ZLL units comprise the lowest priced single-family unit available, and a specialty market, where the prices are similar to those of traditional single-family units. The main attraction is the distinction of having low

maintenance, unique design, security, and possibly increased recreational opportunities.

The shelter market is often comprised of individuals, young couples and families who would consider the ZLL unit as a first house. These persons have been priced out of the conventional large lot, single-family detached structure. The main buying objective of this group is to find shelter in a detached unit and to enter the "housing value increase market" of homeownership. Increasingly, large multifamily units are meeting this objective due to price constraints. The ZLL home becomes a short-term means of being able to afford a house. In contrast, the specialty market looks at its housing as an end, the best unit to meet their present and near future needs and lifestyle (Jensen, 1981). There is valid interest today by most people in the strong appreciation potential of homeownership. In fact, the appreciation possibility of a smaller, more energy efficient unit at a desirable location, can be a major marketing tool for ZLL housing.

The specialty units can appeal to a number of different groups, such as young singles or couples, "empty nesters," where children have grown up and left, divorced persons and retirees. The specialty unit

still provides a detached unit lot available for the owners' use. ZLL housing also provides relatively low maintenance requirements, privacy, and potentially higher security. Also, specialty developments are often built around a recreational element, such as a lake, golf course, or other open space amenities.

There are major differences in the market and sales approach for the specialty and shelter markets. ZLL developments in shelter markets can range from five to nine units per acre, with few amenities in the development. Usually, there will not be a major investment in common open space or recreational amenities (Jensen, 1981). In the specialty market the density would generally be lower, ranging from three to eight units per acre, and more emphasis would be given to open space amenities (Jensen, 1981). However, it is important to remember that density is not as important as the project design and special finishing touches, such as landscaping, for the developments success.

Market Acceptance of ZLL Development

At present, there are three levels of ZLL housing acceptance in various markets. Level one consists primarily of small markets where there has virtually been no acceptance or experience with this type of development. Level two communities, such as Denver and

Chicago, have had some experience with this type of development, but it represents only 10 to 20 percent of the total new housing stock and even a smaller percentage of total housing stock. Level Three markets include Southern California, Dade County, Florida and Phoenix, Arizona where ZLL developments comprise a major part of total new housing stock up to 50 percent, and are considered standard (Jensen, 1981).

> "The major concern in a Level 1 market is to determine when sufficient potential exists for the first or second ZLL development in the community. The main objective of the market analysis, therefore is to determine whether a significant share of potential homebuyers have been priced out of the conventional housing market or whether a substantial lifestyle market segment is not being adequately served. The question concerning Level 2 markets include what the total amount of available demand is, where new desirable locational opportunities are, and whether all of the potential submarket groups for ZLL housing are being adequately served." (p. 61)

In the Level 1 and Level 2 markets, the lack of experience of the buyer and the fear of the unknown are important considerations. Unless the project is well planned from the design to the marketing stage, these problems could be compounded by an unsatisfactory appearance of ZLL housing. Therefore, a developer of early ZLL units in any market must produce an exemplary product and still acknowledge that the marketing effort will be mainly educational, showing potential buyers

the benefits of this type of development while also easing their apprehension about the new concept. (Jensen, 1981).

The Level 3 markets have fewer variables to assess since the buyer is familiar with the ZLL concept. For example, in Southern California, ZLL housing is becoming a standard for new single-family detached housing purchases; including all income groups, age groups and household compositions (Jensen, 1981).

Revising Land Use Controls

The need to revise land use controls to accommodate the increasing new demand for less expensive forms of housing is clear and immediate. The extent that the new households and homebuyers will realize their desire of homeownership in the future will depend upon whether local communities act to make housing more affordable.

The three major parties that are involved with rezoning ZLL cases; developers, neighborhood residents, and the public agencies should all be involved with the development of the guidelines. When all parties have been part of the development of goals and objectives there have been less misunderstandings and better appreciation of the end product. For example, Dade County, Florida formed a Zoning Code Review Committee to review and update the existing zoning ordinance.

The committee was drawn from different sectors of the community including; developers, architects, engineers, interested citizens, and the county planning staff. After review of the ordinance, the committee was able to formulate a ZLL form of development that was acceptable to the interested groups.

The three major parties to rezoning cases; developers, neighborhood residents and the public agencies, like ZLL after they have tried it. Developers have lower housing costs, are able to meet new market demands, experience fewer problems getting their zoning, and have a better idea of what is expected from them during the development review process by the planning agency. The neighborhood residents are more agreeable during public hearings when they realize the units are owner-occupied single-family detached units and not multi-family rental units. Public agencies also gain tighter development restrictions, good public infrastructure, and obtain a technique that increases the range of housing choices in the community.

ADDING ZLL ZONING

When adding ZLL concepts to local zoning and subdivision ordinances, you will need to review local requirements that may need to be amended. For example,

in Manhattan, Kansas there is a 3 foot side yard setback requirement to meet fire codes. To build on the lot line wall would need to be a rateable fire wall even when the next unit is more than 10 feet away.

DEFINING THE ZLL CONCEPT

The zero lot line zoning concept applies to conventional detached single-family houses on separate lots with three basic exceptions:

1. One side yard is allowed to reduce to a zero foot setback and the other side yard is at least 10 feet or the sum of both side yards otherwise required in a conventional parcel if located in another residential zone.
2. The wall of the house determined to be the zero lot line has no openings to provide privacy and fire protection.
3. Each dwelling building should be separated from any other buildings by a minimum of either 10 feet or the sum of the two side yards for the zoning district.

This definition would allow ZLL development to apply to single-family attached units separated by a common party wall extending from the basement through the roof. Each unit is owned separately and would be platted separately. The double side yard, or 10 feet,

would be required of each parcel.

DECIDING ON THE MINIMUM SIZE OF SUBDIVISIONS

The ZLL concept requires a minimum of two lots: the parcel containing the ZLL house on the lot line and the parcel adjacent to the zero lot line. The lot adjacent to the zero lot line must provide a side yard easement abutting the full length of the zero lot line. This easement allows maintenance of the lot line wall of the house and any barrier wall or fences.

The design requirements for developing ZLL units require acreage, however, small acreage of one acre will do. According to most professionals in this field, the best tract size ranges from 3 to 10 acres. Development on larger than 10 acre tracts tend to have a monotonous cookie-cutter appearance and changes the marketing image of the project. The ZLL system tends to work best with about 15 to 20 units. When more than 20 units are planned, additional open space and amenities should be required.

Of course, the most logical approach to developing a sound policy on the minimum size should take into account the local needs and circumstances. What type of land is vacant (major characteristics)? Where is it located? How large are the parcels? What are the approximate sizes of most parcels on the market? What

are the local development activities?

It is also important to follow the guidelines set up with the goals and objectives policy. What do communities hope to achieved by ZLL development? If the community's desire is for a substantial increase in open space, a larger minimum size requirement may be appropriate. If the desire is for more design flexibility, perhaps there is no need for a minimum development size; if the small developer has interest in this method, then the lower minimum requirements may be in order. The underlying idea is to tailor the minimum standards to the objectives of the community.

HOW MUCH REDUCTION IN LOT DIMENSIONS

The ZLL development concept allows for an increase in the efficient use of the side yard. The efficiency can be passed to the developer as a density bonus, resulting ultimately in lower housing costs. Efficiency is achieved by locating the structure on at least one lot line and creating larger side yard space to be used for out door activities that would usually occur in the rear yard.

When the ZLL zone is used in conjunction with an underlying residential zone a density bonus can be passed onto the developer. Studies show that individual parcel sizes can be reduced by 30 percent if

the side yard is the ZLL yard and has a ZLL wall/fence along its full length, ZLL reductions can approach 50 percent (Reed, 1985).

In order to gain this additional density bonus, the developer should be required to provide a detailed site plan showing how the living space will be more efficient and how privacy of lots will be preserved. The site plan should have the footprint of the structure and the design of the side yard.

The lot should be planned for appropriate climate control and orientations of the building taken into consideration. The side yard should be fully designed to be integrated with the interior space and a fully landscaped side yard patio (Reed 1985).

The best and most utilized lot sizes for ZLL projects are between 4,000 and 8,000 square feet with 5,000 square feet being the average for median priced homes (Reed, 1985).

When utilizing density bonuses in conventional zones, common space may not be necessary. The smaller lots utilized for ZLL development would create open spaces too small and fragmented for efficient use of amenity. The development should be reviewed in terms of location to amenities and the desired market to determine open space needs.

BUILDING SETBACKS

Building setbacks can be applied to each lot in a manner unique to the site. Allowable setbacks should be determined at the time of site plan approval and can be variable. The major concern is adequate setback from the streets for public safety and aesthetics. Setbacks should be measured from the inside of the sidewalk or from the property line if no sidewalk exists to the closest portion of the building. In general, this distance should be less than five feet or 18 feet or more. Distances between 5 feet and 18 feet can block the sidewalk when the driveway is used for parking.

Rear setbacks are provided depending on the location of additional structures and open space. The rear of the structure may be allowed to have a zero lot line wall if the rear line is next to a common area or if placement of adjacent structures will allow (Jensen, 1981).

ZONING REQUIREMENTS SPECIFIC TO ZLL

Due to the small size of the lots, special attention must be given to the maintenance easements, on-site control of drainage, overhangs, location of the lot line wall, the openings on the lot line, minimum size of the dwellings, and buffering of conventional zoning.

Charles Reed recommends the following for the above mentioned situations:

1. The ZLL barrier fences or walls legally should be set about one inch from the zero lot line. They should not set on the line or straddel the line.
2. Overhangs on the ZLL side of the house can be allowed to protrude up to 2 feet. The encroaching gutter should drain back across the zero lot line into the front or rear yard of the ZLL house.
3. The wall on the zero lot line should not have any openings facing the side yard of the adjacent lot. This includes, but is not limited to; doors, windows, dormers, ventilators, air conditioning compressors or fans.
4. Require a recorded maintenance easement along all zero lot line lines to ensure adequate upkeep of the wall. The easements are typically 5 to 10 feet in width.
5. The perimeter yards for ZLL projects should conform to the conventional zoning that surrounds the property (if not zoned, a buffer consistent with setbacks provided for in the zoning ordinance should be used. No zero yard should be permitted against a perimeter yard or public right-of-way. (p.3)

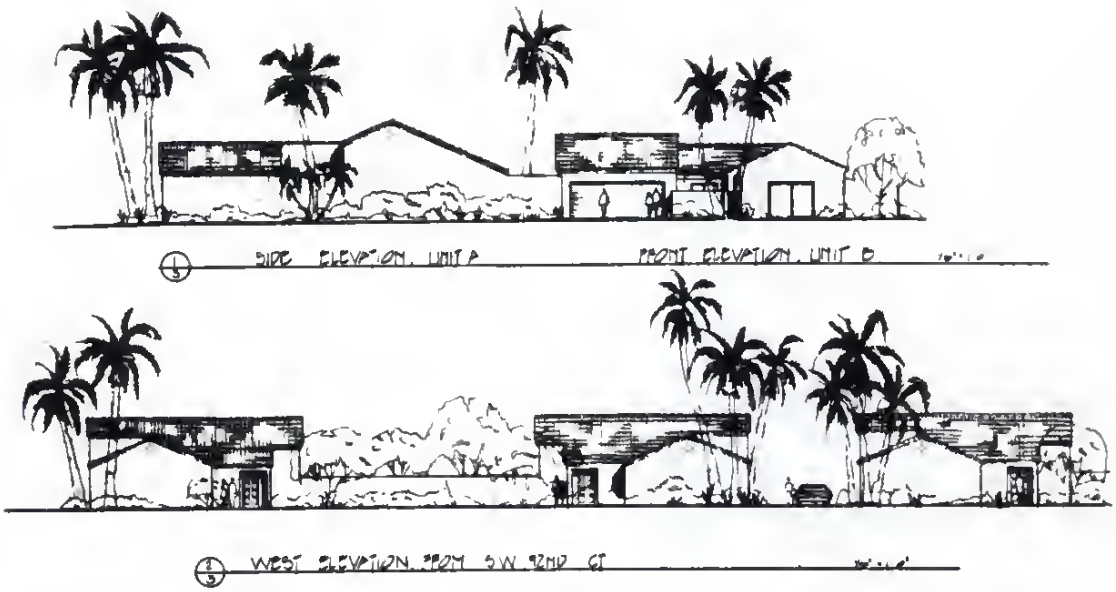


Figure 12. Elevations for proposed Elysian Gardens Development.

Source: (Jensen, 1981; p. 5)

Figure 13. To help ensure that zero lot line developments are both attractive and compatible with existing development, proposals for such development in Dade County must include a site plan, elevations, and a perspective drawing of the proposed housing units.

Source: (Jensen, 1981; p. 5)

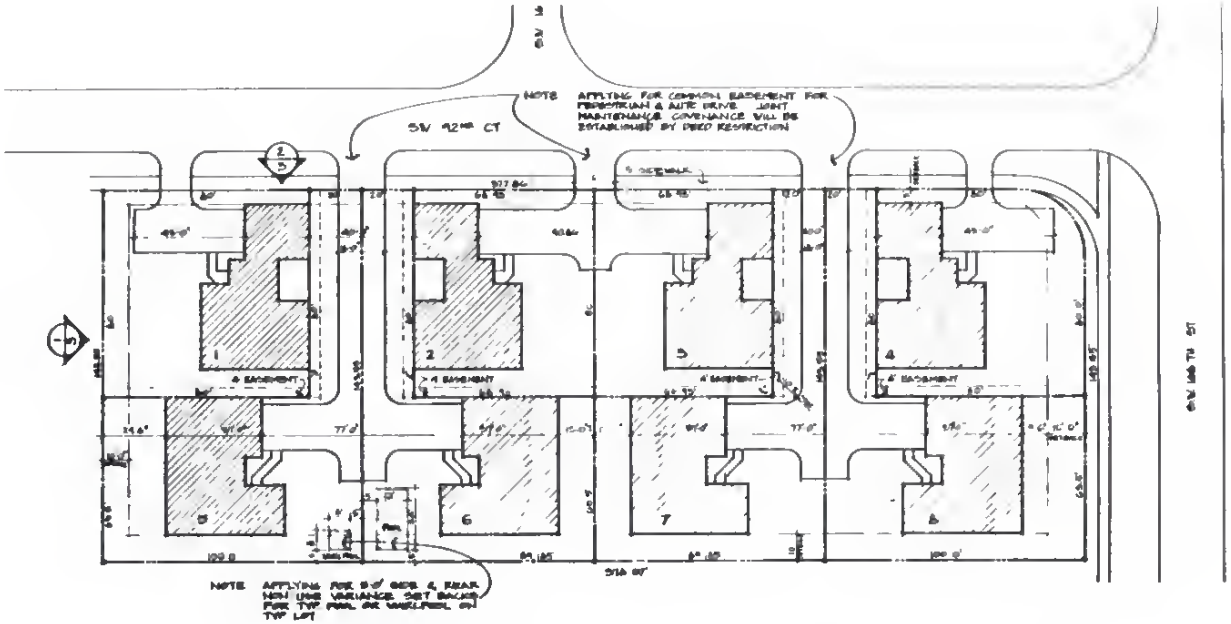


Figure 14. Site plan for proposed Elysian Gardens zero lot line development, Dade County, Florida.

Source: (Jensen, 1981; p. 6)

AMENDING THE SUBDIVISION REGULATION

The concept of utilizing ZLL development for the reduction of housing costs and/or to provide an additional housing type does not have to lower the existing standards. However, certain waivers and considerations are important.

A committee of interested persons should be formed to review the existing land needs and make recommendations. The committee should consider adding waivers to accommodate the unconventional platting requirements of ZLL projects. Waivers include the layout of lots and blocks, ratio of lot width to lot depth, construction standards of the project infrastructure, and the acceptance of private streets internally in the project.

As is the case in conventional subdivisions, the rectangular lot form is the most common shape for ZLL construction. Various sizes of rectangles can be grouped together to efficiently use the site. Alternative forms may include a square, which is basically the same as the rectangle, but for architectural reasons, requires dimensional changes. Wedges, five sided pie-shaped lots, are premium lots, due to their premium yard or court area and should be

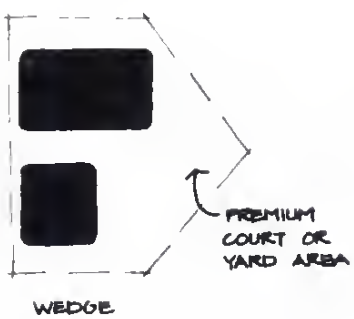


Figure 15. The rectangular form is the most common lot shape for ZLL homes, however, various rectangular modifications may be used.

Source: (Jensen, 1981; p. 15)

utilized at bends in the road, when necessary. Often due to the site considerations, there is reason to provide for a staggered rectangle in order to accommodate an architectural concept. These lots fit together to provide a consistent cluster. All of the lot lines should be allowed to be modified by curved right-of-way line influences or by parcel lines which do not run perpendicular to streets (Jensen, 1981).

The reduction of street rights-of-way, pavement width and gutter standards should be considered internally in the ZLL clusters. Streets inside the cluster development should serve no more than 10 parcels and are actually access points for garages and drives. The internal streets can be privately owned and maintained by a Homeowners Association; under this provision they could grade thicknesses, be reduced to 18-20 feet wide, and use rolled curbs. Any public street that abuts or traverses the ZLL project should be built to city standards and provide continuity with the existing circulation pattern.

An addition to the subdivision regulations to accommodate fire fighting emergencies should be provided. Due to the small-lot and close quarters within the ZLL clusters, additional fire hydrants may be necessary to provide flexibility in fighting fires.

TYPICAL PROBLEMS ENCOUNTERED DURING PROCESSING	POTENTIAL SOLUTIONS
Large lot syndrome	*determine cost of development construction per d.u. *determine cost of city services per d.u. *explain lifestyle orientation *explain that ZLL can occur in all lot sizes
Surrounding land use conflicts	*show compatibility with conventional single-family via cost and buyer comparisons *show compatibility with multifamily via density and amenity comparisons *program architectural compatibility *add land use/lot buffer
ZLL concept	*show plan and elevating graphics *show renderings (perspectives)
Smaller is cheaper/less quality	*explain marketing and lifestyle information *discuss architectural components *provide available economic comparisons of existing projects
Recreation requirements	*indicate proximity to existing facilities *discuss on-site facilities
Streetscape clutter	*explain landscape concepts *discuss architectural variations *illustrate proper parking solutions *provide short runs of straight streets
No appropriate zone for project	*adopt project to existing zone *use project as a model to prepare new zone classification
On-the-line problems for the city	*compare with standard housing *allow building code standards for separations
Drainage and maintenance	*provide deed restrictions, covenants, or easements
Why should we make special provisions for this project?	*point out lower costs to buyer *explain energy-saving features *note that traditional requirements are excessive and ZLL is needed

Table 2. Typical Problems and Potential Solutions Encountered During Processing.

Source: (Jensen, 1981 p. 106)

The ZLL concept is a good solution to cost effective housing. However, when it is introduced to a new area the public, council, residents, etc., all need to be educated about the ZLL concept. It may be necessary to implement an educational program that utilizes simple graphics to show the basic concept, floor plans and models, cost analysis, and neighborhood assets. This process needs to be started before the zoning process is initiated to gain public acceptance and support.

Conclusions

The zero lot line concept is a single solution for a much wider problem; the problem of building affordable housing for the changing demographic patterns in the United States. The emerging demographic trends which are expected to continue in the 1990's will require a "rethinking" of conventional zoning requirements. Approximately 17 million new households are expected by the 1990"s, depending on economic forces, divorce rates, marriage ages and housing choices of the elderly (ULI, 1981). Although this number is only slightly higher than in the 1970's, the age, composition, and size of new households is significantly different from the past. This increase in the number of households will put pressure on the supply, type and location of housing units.

The baby boom population of the United States is maturing and the elderly population is growing rapidly. Almost one-third of the new households formed will be from the 24-34 age group and the number of persons aged 65 or over will increase by more than 19 percent. Almost one-quarter of the new households formed in the 1990's will be elderly households (ULI, 1981).

Household living arrangements are also becoming more diverse, with fewer "traditional" family households. The number of households composed of married couples, with or without children, is declining. The typical buyers for new housing units were married couples with 2 or 3 children. However, the types of households wanting to buy new housing units are diversifying.

Smaller houses in convenient locations are increasingly viewed as more suitable to the needs of older households as well as younger singles and couples. Housing designed for raising children with large yards and several bedrooms, made up a reduced share of the new housing market, reflecting a dramatic decrease in the proportion of the market with children.

A major stumbling block to more widespread acceptance of the need to update development policies to allow ZLL cluster-type developments, is the popular assumption that Americans have a single preference for shelter and lifestyle. This myth has never been less true. The varying economic circumstances and increasingly diverse household types are accompanied by new patterns of consumption and preferences.

Due to the current trends, the popularity and acceptability of ZLL development may increase. The increase in housing costs and the lack of moderately

priced housing is creating isolation of social and ethnic groups. This trend will continue as long as housing cost increases exceed income increases. ZLL housing can improve the quality and stability of neighborhoods by providing more affordable housing for a wider range of incomes.

Conventional zoning regulations rigidly specify a minimum permitted lot size for each zoning district. Because almost any deviation from the specified grid system using the specified minimum lot size involves a reduction in density and ultimately an economic penalty to the developer. The practice of laying out subdivisions with little attention to design and natural features of the tract, due to lot size requirements and to increase the density, is outdated. In the recent past, developers and planners have been working with the PUD process. The PUD process often costs more due to the negotiating process, but the end project is designed for maximum density utilizing the natural terrain, curvilinear street patterns and extensive open space. More recently, clustering of dwelling units has resulted in subdivisions that are well designed and effectively utilize the natural terrain. This has been done by using smaller lot sizes, short cul-de-sacs, straight streets, when

possible, to offer greater efficiency, and open space that is functional and within walking distance of the units in the development.

Although ZLL development may occur by utilizing the PUD or variance process, it is not necessary. When adding ZLL zoning to local zoning and subdivision ordinances a firm commitment must be made by local officials, developers, realtors and other interested parties to review the existing requirements and adopt a written policy as to the goals and objectives that the city can follow in allowing the flexibility required of a good ZLL ordinance. One that allows for the variance of lot size based on amenities and circulation in the development.

A logical approach to developing a sound policy should take into account the local needs and circumstances. What type of land is vacant? What is the natural terrain like? Where is it located? Is it close to shopping parks or other amenities? How large are the parcels? What are the approximate sizes of most parcels on the market? What are the local development activities? How is the housing market being met?

Is it important to follow the guidelines that are established with the policy. What is the community

hoping to achieve by the introduction of ZLL development? If the community's desire is for a substantial increase in open space, then it should be specified in the ordinance. If the desire is for more flexibility, then it should also be addressed by means of performance standards or use limitations. Individual communities will need to decide the direction and type of growth that will occur utilizing ZLL methods.

The housing needs of the United States will be changing over the next decade. The forecasters state that present trends will continue. Marriages are occurring later in life; more women are in the work force. There has been an increase in one parent head of households, in the divorce rate and the population of the United States is maturing; the elderly market has increased. All of these trends show a viable market for the ZLL concept of smaller, single-story structures. The important item to determine is what market the community needs to meet, the specialty market or the shelter market. The ordinance needs to be flexible enough to allow both. The shelter market, or lower-priced first time home-buyers, have different desires or needs for housing. The cost could be reduced by smaller lots and an increased density if located close to amenities that were not on site.

Whereas, the specialty market is looking for the recreational amenities, landscaping, upkeep of the units and green space, and the overall project. The community would however, need to be concerned about buffering from lower density projects as well as the design and landscaping of any proposed development.

ZLL development is only one step in answering the need for affordable housing in the United States. There is a need for further research in this area, especially after the 1990 census, with updated and current information to determine the forecasted trends in demography. What are the existing (1990) household types? How may women, in which age groups are in the work force? How many children are there in households and where do they spend most of their time? Are the children at home or day care centers? There is also a need for an educational program to increase consumer awareness of different opportunities for housing and lifestyle.

Planners need to be involved on the ground floor in committees formulating policies, goals and objectives. The planner's role should be one of a professional with a well-rounded knowledge of many development aspects including design, construction and, geology. In order to "meld" the group together, with everyone making

concessions.

The ZLL cluster-type of development is still a very new concept in most of the United States. Therefore, the lack of experience of the buyer and the fear of the unknown are important considerations during the planning, design and marketing stages. The developer of early ZLL units in any market must produce an excellent product and still realize that the marketing effort is mainly educational, showing potential clients the benefits of this type of development while easing any apprehension about the new concept. ZLL development is not a panacea to resolve the problem of affordable housing, but when done correctly, it can be a positive response to a solution which meets the projected future needs of housing in this country.

APPENDIX
EXCERPTS OF ZERO LOT LINE PROVISIONS

Chapter 33 of the Code of Metropolitan Dade County, Florida
Zero Lot Line Developments, Ordinance No. 819

Ordinance providing a special exception procedure for approval to permit a "Zero Lot Line (ZLL) development; providing legislative purpose; establishing districts in which permitted; providing development parameters as follows: permitted uses, minimum lot sizes, structure setback requirements, street frontage, maximum lot coverage, platting requirements, building height, integration of interior/exterior areas; prohibiting openings on the zero lot line side, easements, parking, trees, common open space, and maintenance of facilities; providing for site plan review; providing for required exhibits, providing for review standards, providing for commencement of development; providing for severability; providing inclusion in the code, and providing an effective date.

SECTION 1.... LEGISLATIVE PURPOSES

The principal purposes of the Zero Lot Line concept are: (1) the more efficient use of land, as compared with the typical single-family development, making available needed housing at a more affordable cost; (2) the design of dwellings that integrate and relate internal-external living areas resulting in more pleasant and enjoyable living facilities; (3) by placing the dwelling against one of the property lines, permitting the outdoor space to be grouped and utilized to its maximum benefit.

DISTRICTS IN WHICH PERMITTED

A Zero Lot Line development for one-family dwellings only may be permitted in the RU-1, RU-2, RU-TH, RU-3, and RU-3M districts, if approved at public hearing. Where the regulations included herein conflict with regulations included in the individual districts or other sections of Chapter 33, the regulations included herein shall apply.

DEVELOPMENT PARAMETERS

All applications for a Zero Lot Line development shall comply with the following applicable development parameters.

A. **Uses Permitted.** Detached one-family dwellings on individually platted lots, including every customary accessory use not inconsistent therewith, shall be permitted. Fencing, walls, trellises, and other similar uses can be used as connecting elements between one-family dwellings on adjacent lots, subject to site plan review. Garages, carports, and utility storage structures shall be permitted accessory uses; however, said structures shall not be used as connecting elements.

B. Minimum Lot Sizes

The minimum average net lot size shall be four thousand, five hundred (4,500) square feet for sites zoned RU-1 and four thousand (4,000) square feet for sites zoned RU-2, RU-TH, RU-3, and RU-3M, this shall not include any credit for streets, recreation areas, common open space, or water bodies. The minimum net lot size shall be three thousand (3,000) square feet. Private roads shall not be used in calculating the net lot area.

C. Dwelling Unit Setback

Interior side yard. The dwelling unit shall be placed on one interior side property line with a zero (0) setback, and the dwelling unit setback on the other interior side property line shall be a minimum of ten (10) feet, excluding the connecting elements such as fences, walls, and trellises. Patios, pools, garden features, and other similar elements shall be permitted within the ten (10) foot setback area, provided, however, no structure, with the exception of fences or walls, shall be placed within easements required by Section K.

Front setback. All dwelling structures shall be set back a minimum of five (5) feet from the front property line.

Rear setback. There shall be no minimum rear setback.

Side street setback. The dwelling setback shall be a minimum of fifteen (15) feet from the side street property line.

Accessory buildings and structures shall observe setback requirements as otherwise provided in the Code.

D. Alleys

Alleys shall be permitted in Zero Lot Line developments. Said alleys shall provide auto access to individual units and provide service access for trash collection and other public and private services. Alleys shall not be used as storage or parking areas.

E. Street Frontage

Each lot shall have a clear, direct frontage on public streets or to accessways complying with private street requirements.

F. Maximum Lot Coverage Permitted

The total lot coverage permitted for all buildings on the site shall not exceed fifty (50) percent of the lot area.

G. Platting Requirements
Each dwelling shall be located on its own individual platted lot. If areas for common use of occupants of the development are shown on the plat, satisfactory arrangements shall be made for the maintenance of the common open space and facilities as provided in Section N of this Article. The plat shall indicate the zero lot lines and easements appurtenant thereto.

H. Building Heights
The maximum building height shall not exceed two (2) stories and thirty-five (35) feet in height.

I. Integration of Interior/Exterior Areas
Access of a total of fifteen (15) percent of the lineal length of the total perimeter wall area of the dwelling unit as measured in plan form shall be provided to exterior/patio court area(s); said access shall be totally visual and physically passable. [See Figure 5 on page 8.]

J. Openings Prohibited on the Zero Lot Line Side
The wall of the dwelling located on the lot line shall have no windows, doors, air conditioning units, or any other type of openings, provided, however, that atriums or courts shall be permitted on the zero lot line side when the court or atrium is enclosed by three (3) walls of the dwelling unit and a solid wall of at least eight (8) feet in height is provided on the zero lot line. Said wall shall be constructed of the same material as exterior walls of the unit.

K. Maintenance and Drainage Easements
A perpetual four (4) foot wall-maintenance easement shall be provided on the lot adjacent to the zero lot line property line, which, with the exception of walls and/or fences, shall be kept clear of structures. This easement shall be shown on the plat and incorporated into each deed transferring title to the property. The wall shall be maintained in its original color and treatment unless otherwise agreed to in writing by the two affected lot owners. Roof overhangs may penetrate the easement on the adjacent lot a maximum of twenty-four (24) inches, but the roof shall be so designed that water runoff from the dwelling placed on the lot line is limited to the easement area.

L. Parking

A minimum of two (2) off-street parking spaces shall be provided on each platted lot.

Except for parallel parking on public roads, tandem parking is permitted only on individual lots and in the driveways connecting such lots with the adjacent roads, provided said driveways are for the exclusive use of each individual lot; however, tandem parking shall be limited to no more than one (1) such tandem parking space for each individual lot. Parking shall be prohibited on sidewalks. Garages shall not be credited toward the parking requirement.

M. Trees

Trees as defined within Chapter 18A, Landscaping, shall be provided on the basis of three (3) trees for each platted lot. In addition, street shade trees shall be provided along each side of the roadway(s) at a minimum spacing of forty (40) feet on center for private roads. In case of developments with public roads, the trees may be placed on private lots in lieu of the public right-of-way provided the forty (40) foot spacing and the rowing of trees are maintained. This shall be in addition to the three (3) trees required for each platted lot. Existing trees, excluding those trees exempt from the protection provisions within Chapter 26B, Tree Preservation, shall be preserved to the maximum extent practical and shall count towards meeting the total tree requirements. Removal of any existing trees shall be in accordance with the provisions within Chapter 26B, Tree Preservation.

N. Common Open Space and Maintenance of Facilities

Common open space is not required but may be permitted. If common open space is provided, provisions satisfactory to the Zoning Appeals Board shall be made to assure that nonpublic areas and facilities for the common use of occupants of Zero Lot Line development shall be maintained in a satisfactory manner, without expense to the general taxpayer of Dade County. Such may be provided by the incorporation of an automatic-membership home association for the purpose of continually holding title to such nonpublic areas and facilities and levying assessments against each lot, whether improved or not, for the purpose of paying the taxes and maintaining such common open space. Such assessments shall be a lien superior to all other liens save and except tax liens and first mortgage liens, which are amortized in monthly or quarter-annual payments over a period of not less than ten

(10) years. Other methods may be acceptable if the same positively provide for the proper and continuous payment of taxes and maintenance without expense to the general taxpayers. The instrument incorporating such provisions shall be approved by the County Attorney, as to form and legal sufficiency, before submission to the Board of County Commissioners and shall be recorded in the public records of Dade County, if satisfactory to the Board of County Commissioners.

SITE PLAN REVIEW

A. The purpose of the site plan review is to encourage logic, imagination, innovation, and variety in the design process and ensure the congruity of the proposed development and its compatibility with the surrounding area. The Building and Zoning Department and Planning Department shall review plans for compliance with zoning regulations and for compliance with the site plan review criteria. The recommendations of both the Planning Department and Building and Zoning Department shall be transmitted to the appropriate board for their consideration.

B. **Required Exhibits**

The following exhibits shall be prepared by design professionals, such as architects and landscape architects, and submitted to the Building and Zoning Department:

1. A location map indicating existing zoning on the site and adjacent areas.
2. Site plan at no less than one (1) inch equals one hundred (100) feet, including the following information:
   (a) Lot lines and setbacks;
   (b) Location, shape, size, and height of existing and proposed buildings, decorative walls and elements, and entrance features;
   (c) Existing and proposed landscaping;
   (d) Recreation facilities (if applicable);
   (e) Stages of development, if any;
   (f) Location of offstreet parking;
   (g) Indication of exterior graphics;
   (h) Indication of design methods used to conserve energy.

3. Floor plans and elevations of all typical units and any other structures such as recreation buildings. The total amount of lineal exterior wall area and that portion which has visual and physical access to outside patio/court areas shall be indicated for each typical unit.

4. Information indicating the following:

   (a) Gross and net acreage;

   (b) Lot sizes (dimensions and square footage);

   (c) Building heights and stories;

   (d) Building coverage for each lot

   (e) Amount of common open space in square feet (if applicable);

   (f) Total trees provided and total trees required;

   (g) Parking required and provided;

   (h) Such other architectural and engineering data as may be required to evaluate the project.

C. Plan Review Standards
The following criteria shall be utilized in the plan review process:

1. *Planning Studies*. Planning studies approved by the Board of County Commissioners that include development patterns or environmental and other design criteria shall be utilized in the plan review process.

2. *Definition of Private Outdoor Living Spaces*. The Zero Lot Line unit shall be designed to integrate interior and exterior living areas. The configuration of the exterior walls of the unit shall define and enclose and/or partially enclose outdoor living areas.

3. *Visual monotony created by excessive block lengths shall be avoided.*

4. *Landscape*. Landscape shall be preserved in its natural state insofar as is practicable by minimizing removal of existing vegetation. Landscape shall be used to shade and cool, direct wind movements, enhance architectural features, relate structure design to the site, visually screen noncompatible uses, and ameliorate the impact of noise.

5. *Buffers*. Architectural and/or landscape elements that provide a logical transition to adjoining, existing, or permitted uses shall be provided.

6. *Subtropical Architectural Characteristics*. Architecture and site development should incorporate consideration of the subtropical characteristics of the area. The provision of sun-control devices, shaded areas, vegetation, roof terraces, and similar features characteristic of subtropical design is encouraged.

7. *Energy Conservation*. Design methods to reduce energy consumption is encouraged. Energy conservation methods may include, but not be limited to, natural ventilation of structures, siting of structures in relation to prevailing breezes and sun angles, insulation of structures, use of landscape materials for shade and transpiration, and orientation of breezes.

8. *Graphics*. Outdoor graphics shall be designed as an integral part of the overall design of the project.

9. *Visual Access*. Visual access shall be provided for the driver of an automobile backing out of the individual lot into the adjacent roadway. Dwelling units on corner lots shall be so situated and set back as to provide unobstructed visual clearance at a roadway intersection.

10. *Private Open Space*. Open space intended for the private use of each individual dwelling unit should be so located and designed as to maximize its utility to the dwelling unit it serves and maximize its privacy, especially in relation to adjacent dwelling units.

11. *Trash Containers*. Trash containers shall be screened and so designed as to be conveniently accessible to their users and collectors.

COMMENCEMENT OF DEVELOPMENT

If development is not commenced within twenty-four (24) months from the date of approval of a site development plan, the approval hereof shall become null and void and the same may not be developed in accordance with said plan; provided, if development is permitted in stages, subsequent stages may be commenced within eighteen (18) months after the completion of the previous stage; otherwise, such subsequent stage may not be developed

in accordance with the previously approved plan and such approval shall be null and void. Commencement of construction shall include, where necessary, substantial site improvement, which shall include but not be limited to active and continuous road improvement, excavation, grading and leveling, installation of utilities, and the like.

SECTION 3
If any section, subsection, sentence, clause, or provision of this ordinance is held invalid, the remainder of this ordinance shall not be affected by such invalidity.

SECTION 4
It is the intention of the Board of County Commissioners and it is hereby ordained that the provisions of this ordinance shall become and be made a part of the Code of Metropolitan Dade County, Florida. The sections of this ordinance may be renumbered or relettered to accomplish such intention, and the word "ordinance" may be changed to "section," "article," or other appropriate word.

SECTION 5
This ordinance shall become effective ten (10) days from date of its enactment.

[Approved and adopted February 3, 1981.]

ENDNOTES

1. Chrinko v South Brunswick 2p. Planning Board, 77 NJ Super at 600-602, 187 A2d at 225-226.

2. Montcrest Estates, Inc. V. Mayor and Township Committee of Rockaway Tp., 96 NJ Super 149, 232 A2d 674 (App Div 1967). A new statute authorized cluster provisions, NJ Rev Stats 40:55-54 et seq., and so the court saw no reason to decide whether such regulations had previously been authorized by the zoning enabling act.

3. Dooley V. Town Planning and Zoning Commission of Town of Fairfield, 154 Conn 470, 226 A2d 509 (1967).

4. As the (Berger and Bertsch) report explains:

   Housing trends apparent in the 1970's, a widening gap between housing costs and household incomes and limited housing availability, are expected to become more pronounced during the 1980's and 1990's. In 1981, less than one-fourth of all American families can afford the $64,000 median-priced, single family new home. And the price of existing housing is increasingly bid-up as the volume and cost of new housing are at odds with demand; the nation produced fewer housing units in 1980 than in any of the preceding ten years. Moreover, the need for additional housing will never have been greater. By the end of the 1980's, there will be 100 million households in America, 17 million more than in 1980 and 50 percent more than in 1970. (pg. 42)

5. A report conducted by the Council on Development Choices states:

   "Homeseekers are being priced out of the market in larger and larger numbers. While in 1970 almost half of all American families could afford the median priced, single-family new home, today less than one-quarter can.(pg. 30)

6. Computed on the basis of the median sales price of a new single-family house in 1970 of $23,400 at a mortgage rate of 7% and the median sales price in September, 1983, of $82,00 at a mortgage rate of 12% both with a 25 year mortgage and loan to value ratio of 90%. The average cost of a house in 1986 was $117,400 at a mortgage rate of 14% with a 25 year mortgage and a 90% loan to value ratio, the consumer is paying eight times more per month than in 1970. (pg. 2)

7. The number of live births per 1,000 total population decreased in this country from 23.7 in 1960 to 16.2 in 1980. (pg. 123)

8. Between 1970 and 1980 the number of persons age 65 or over increased by over 5 million persons to a record level of 25,544,000 persons in this age category and accounted for almost 24% of the national increase in populations growth during this period. By 1990, the total number of persons age 65 or over is expected to increase to nearly 30,000,000 persons (Sternlieb & Hughes, 1982). (Pg. 124)

   Divorce rates in this country increased 141% between 1960 and 1980. As a percentage of the marriage rate, the divorce rate in 1980 reached 48.6% compared to a rate of 23.4% in 1950 (Census Bureau, 1980) (pg. 124)

   The number of persons living alone also increased significantly between 1970 and 1980. The number of single-person households increased by 75% during this period and in 1981 constituted 23% of all households. The rise in single-person households is due in part to the fact that men and women are marrying later in life. According to Census Bureau data, the percentage of never-married women age 25-29 doubled between 1970 and 1980, the percentage of never-married men age 20-24 rose from 55% to 70% during that period, and the percentage of never-married women age 20-24 rose from 36% to 52% during the same period. (pg. 125)

9. According to a recent report, while 70% of households in past decades consisted of married couples, only about 25% of the estimated 17 million new households that are expected to be formed in the 1980's will consist of married couples' (Berger, Bertsch, Bowman & Shaul, 1981). (pg 30-31)

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ZERO LOT LINE DEVELOPMENT: A HOUSING STRATEGY FOR THE FUTURE

BY

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B.G.S., KANSAS UNIVERSITY, 1980

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fullfilment of the

requirements for the degree

MASTER OF REGIONAL AND COMMUNITY PLANNING

College of Architecture and Design

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1988

ABSTRACT

The purpose of this report was to study Zero Lot Line development and its applicability to meeting market needs for affordable housing in the future. A review of the literature explains the historical evolution of ZLL development as a form of cluster-style development, planned unit development, and ultimately as a use-by-right. Based on the legal findings, the paper lists specific guidelines to follow when amending subdivision regulations and the zoning ordinance to the use-by-right. Based on the literature research that reviews the changing demographic patterns of traditional household types and sizes, it was found that ZLL development could help meet the needs of special markets including; first-time homebuyers, the elderly and specialty markets.

The paper found that ZLL development is not the panacea to resolve the problem of affordable housing, but when done correctly, it can be a positive response to a solution which meets the projected future needs of housing in this country.