ABSTRACT

Title: COMPREHENSIVE PLANNING AND DEVELOPMENT: A SEASIDE TOWN IN CONNECTICUT

Nicholas L. Daveline, Master of Architecture, 2005

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The focus of this thesis is urban design. The project is a new seaside town along the coast of Connecticut of approximately 690 residential units, commercial space, and appropriate public buildings and spaces. Some current planning ideology, development, and architecture are fallacious, resulting in poor communities. This site is used to define, explore, and propose solutions to the issues of designing comprehensive communities while using the paradigms of the traditional city as tools for design.

This thesis demonstrates that: history and theory of urban design are useful and *necessary* at all scales of design; classical and traditional paradigms are *viable* methods; and typology is *essential* in understanding and designing the city.

The product of this thesis is a comprehensive town plan that: meets current demand for development; articulates critical typologies suitable to the project; explores and catalogues pertinent historical and theoretical precedents; and produces a graphic urban and architectural code.

COMPREHENSIVE PLANNING AND DEVELOPMENT:
A SEASIDE TOWN IN CONNECTICUT

By

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PREFACE

Before beginning this thesis document, I would advise the reader to fully review and make note of items in the appendices. While the thesis committee and the Graduate School of Architecture, Planning, and Preservation at the University of Maryland appropriately advise a specific scope for the thesis document, the information contained in the appendices is critical to the document and could only be made available to the reader in the appendix.

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The School of Architecture and the Faculty at the University of Notre Dame is also worthy of a special acknowledgement. I received by far the best architectural education available in the country from the University of Notre Dame. The School provided me all the necessary tools, skills, and abilities to continue my graduate education and to complete this thesis.

Finally, a most important and special thanks to my parents and family. They have provided me with everything I could ever need and want and have made my life all that it could be.

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CHAPTER 1: INTRODUCTION

The focus of this thesis is urban design. The project is a new seaside town along the coast of Connecticut, designed to be both a year-round and seasonal community, of approximately 690 residential units, commercial space, complementary public and civic buildings, and urban and natural spaces. It is my contention that current planning, development, and architecture in the immediate region are resulting in bland, off-the-shelf, bedroom communities that lack identity, fail to relate to the history and tradition of New England, and are not comprehensive plans for development. I believe these problems are rooted in a fallacious planning ideology that persists across the United States.

1.1 – Mistaken Ideology:

Several factors contribute to the fallacious planning ideology that has produced poor built communities not only in the immediate region of the thesis site, but the nation as well. Zoning, city growth, the automobile, economics, and technology in the last century have adversely affected the idea of the city, the role and practice of urban planning, and the tangible urban environment.

Zoning has taken the city, a complex and balanced whole, and divided all its necessary parts into individual pockets. This division creates a problem of access and connection. The contemporary solution is to connect these pockets by a mega-complex of roads and rails. Each of these zoned pockets tends to be mono-functional: developed as single-family homes, apartment complexes, office parks, or shopping malls. These zones are intentionally secluded from each other and introverted.

Ironically, the network of access systems required to connect these pockets only furthers the physical and psychological division. The access systems are required to be high-speed arterial roads, elevated highways, or multi-lane vehicular corridors which create impenetrable boundaries and result in high volumes of traffic and congestion on a single road. These access systems are also limited to one-way in, one-way out of each pocket of zoned use. Finally, both the zoning and the systems of access create an environment where the pedestrian cannot participate.

The land-use of these zoned developments is also inefficient. Large areas of land are consumed to accommodate a single use resulting in extremely low density. Developments then over-expand into the natural landscape in order to meet the demand for development. This destroys or severely alters the existing agricultural economy, water supplies, and natural habitats. Too few natural landscapes are left untouched to preserve the natural characteristics of the region.

The current preference of overly-large suburban lots results in fewer and fewer units per acre of developed land. This requires the developer to acquire and build into more land to reach a goal of a specific number of units in order to make a profit. This also leads to a shortage of residential types which in turn leads to a shortage of affordable housing. Sprawling developments isolate socio-economic groups by separating the upper-, middle, and lower-class from each other rather than maintaining socio-economic diversity by providing opportunities for all groups.

City growth often occurs by over-accumulation, rather than by extension or multiplication. The contemporary solution to growth is to attach more and more people, buildings, and suburbs onto the mature city, town, or village rather than

planning a comprehensive extension or duplication of successful types to accommodate needs and demands. The mature city is over-loaded with the increased density and demand; and the district as an urban type is swallowed by over-accumulation.

The automobile, while being a modern convenience and necessity, is given too much emphasis in contemporary planning. In most cases, lifestyle is automobile-dependent where nothing can be accomplished without the use of the car. This increases the consumption of fuels, the amount of time to get from one place to another, street and highway congestion, the total amount of energy and money required for a day's activities, and pollution of both the air and water. Cities and developments are now scaled to the automobile and how fast one can travel from one point to another rather than being walkable and scaled to the pedestrian. The road has supplanted the street as an urban type. Street hierarchy is difficult to understand because each roadway is designed at the maximum width for the automobile. Connections between centers, nodes, and landmarks are made by a single arterial road rather than a grid of multiple means of pedestrian and vehicular access. Instead of the car being accommodated in creative, inconspicuous, and environmentally friendly ways in new developments, it is the design generator, leaving all other considerations secondary.

Most developments today fail to relate to the site and its context. Technology has allowed architecture and planning to leap beyond the conditions of the site. However, site conditions are something that should be integral in the design process and eventual product. Responding to the site results in a positive dialogue with the

context, coherence between existing and proposed conditions, and preservation of the historical, cultural, and social traditions of the region.

Still more specific urban design and architectural problems exist. The cul-de-sac has become a too-common street condition in both urban and suburban street patterns. Streets and roads are designed exceedingly wide to accommodate, and in fact promote, high speed traffic rather than accommodating a speed suitable to the urban condition. Low-density single-family houses are placed on lots too large to be used efficiently. Positive urban edges, street walls, and distinctions between public and private spaces are ambiguous or do not exist. Building fronts, whether they are private or public, are pulled back from the street and empty parking lots occupy the majority of the property.

These development patterns carry with them the expense of building new infrastructure while wasting the existing. The spread-out nature of the housing and/or strip malls require more linear feet of infrastructure to service an extremely limited number of units. The cost of maintaining and delivering services is increased by several factors per unit.

A study of sprawling development patterns in Pennsylvania (2000) found that towns spend up to $120 million more a year than they would if more compact forms of development were used. Avoiding sprawl can save up to 25 percent of the cost of building roads, utilities, and schools. A study in Rhode Island (2000) found that if the state stayed on its course of sprawling development it would cost the taxpayers an additional $1.5 billion in the next 20 years. Half the expense would go to decaying

urban centers and 30 percent would be for building and maintaining extra infrastructure.[1]

1.1.1 – Connecticut's Development Problems:

The "State of Sprawl" editorial in the October 9th, 2005 edition of the *Hartford Courant* clearly admitted that Connecticut's current state of development suffers from the same mistaken ideology outlined in this thesis. "Relentless [and] helter-skelter," is how the article described new development, "…chewing up [the] landscape at an appalling rate and diminishing [the] quality of life." To put numbers to this statement, the article outlined various statistical data collected over decades. The amount of land classified as being in residential use is more than eight times the population growth from 1970 to 2000. Obviously development is spreading out far more than it needs. "Nearly all [the new development in Connecticut] is sprawl – ill-planned, low-density, auto-dependent, single-family residential or strip-mall construction…"[2] with no alternative planning methods offered. Karl Wagener, the executive director of Connecticut's Council on Environmental Quality explained, "[These sprawling developments are] the most serious environmental problem facing Connecticut."[3] The traditional farm towns and small manufacturing villages so characteristic, traditional, culturally and historically significant to the region are being wiped-out by sub-divisions and strip malls.

As with the rest of the nation, part of the problem results from the lack of a comprehensive planning strategy at all levels; from the state, to the county, to the

[1] Editorial, "The State of Sprawl." *The Hartford Courant*. October 9th, 2005.
[2] Editorial. "The State of Sprawl."
[3] Editorial. "The State of Sprawl."

city, to the developer and planner. An alternative planning ideology needs to be proposed to deal with this serious problem.

1.2 – Alternative Ideology:

This thesis demonstrates the current planning methods, both on a national and regional level, are not the only options for the present or the future. One of the problems today is that the general public is unaware of alternatives to current planning methods. Common misconception is the planning executed today is the best society and the professional disciplines have to offer. On the contrary, they are not the only choice available. This thesis offers an alternative planning ideology based on the Traditional City.

The Traditional City is a type to which urban planning can return. It is a type that has been cast aside in contemporary planning. However, the principles of the Traditional City provide insights, potential solutions, design paradigms, and time-tested, repeatable, and successful urban and architectural solutions that can help establish a more comprehensive planning ideology which accommodate the needs of the future. The Traditional City serves as a source of inspiration. It is the type that serves as the rule for this thesis.

1.2.1 – The Traditional City Type:

This thesis defines the Traditional City Type as the rules, paradigms, principles, and commonalities that exist between the overwhelming majority of urban and architectural planning models from ancient to pre-World War II times. These

include not only town and city plans, but also smaller scale urban interventions, such as neighborhoods, districts, and quarters. Common characteristics of the Traditional City Type can all be found in precedents from these periods. However, after World War II, the Traditional City Type was denied in favor of alternative planning methods. This denial has contributed to the fallacious planning ideology of contemporary times.

The Traditional City Type contains valuable urban planning paradigms that inform design. These include: streets and squares that are imageable and identifiable; multiple means of access for the pedestrian and the machine (whether it be boat, train, or automobile); districts and neighborhoods that are walkable, finite, and particular; space design that is focused and purposeful; clear hierarchy of streets, squares, and architectural types; streets that connect to centers and nodes; urban boundaries with clear distinctions between city and country; rational development patterns and practices; identifiable town and/or neighborhood types; properly scaled towns, districts, and lots; manageable density of cities and neighborhoods; varied, identifiable, and functionally suitable street types, block types, space types, and building types; identifiable public and private spaces; common types of city growth; site dependent city construction, cultural consideration, and social accommodation; logical land-use patterns; shared dimensions of urban spaces, streets, and buildings; coherent city edge and city center conditions; and identifiable and harmonious characteristics, both architectural and urban, that are relevant to specific time, place, culture, social conditions, and established values. It is important to identify and

understand these paradigms and how they are relevant to the particular design problem.[4]

1.3 – Modern Pragmatic Imperatives:

Though this thesis focuses on a return to the paradigms of traditional town and urban planning, the modern pragmatic necessities and conveniences of today cannot be overlooked. One of the successes of traditional urban planning lies in the ability to adapt to changing times, circumstances, and needs of society and culture while maintaining connections to the familiar typologies and the specific context of the site.

1.3.1 – Necessities and Conveniences:

The automobile has been one of the most destructive modern inventions to the environment in history. Le Corbusier predicted the inevitable harm the automobile would cause to the city in the early 20th century when it emerged as a new machine for the modern era. Sadly, he was far too close to the truth.

Today, urban planners and architects must consider the automobile at all scales of design. It is both a convenience and a necessity. It is relied on a great deal for daily life. The answer is not to eliminate the automobile. Rather the goal should be more careful and creative ways of accommodating the automobile. Many efforts have been made in modern planning and architecture to achieve this, but there are still steps that can be taken.

Special access issues for the handicapped, emergency vehicles, and service vehicles are equally important and are required in contemporary planning to a degree

[4] Refer to Appendix A.1.3.

not previously achieved in the past. Disabled access ensures a level of equality and ease. Fire, ambulance, and police vehicles and personnel need to be provided for properly in the event of any conceivable condition. Service vehicles also need access to provide and maintain all the modern necessities of the community.

Public works such as water and sewer, electricity, gas, removal of waste, and recycling are required in new developments. Shipping and delivery of goods as well as servicing of infrastructure and people must be made available.

The pragmatic aspects of any new development must be planned for and work efficiently to ensure success. However, there is no need to cast aside successful historical and traditional paradigms or typologies to meet these needs. To claim they are unable to meet the demands of today or that they cannot be as innovative as other methods is a sign of a mistaken ideology. Historical examples of accommodating conveniences and necessities of a specific time can help inform design today. Perhaps the solution does not need to be changed, it may work as well today as it did yesterday. Conversely the solution may need a degree of manipulation to meet requirements.

In regard to these modern pragmatic requirements, a distinction must be drawn between accommodating in the design vs. generating the design. Accommodating these pragmatic issues ensures success while relying on the knowledge base of architecture and urban design to generate the plan. However, allowing these pragmatic issues to generate the design diverges from the knowledge base and leads to unfamiliar solutions that then have new problems. Allowing the pragmatics to generate the design walks dangerously close to the modernist mantra of

"form follows function." Scholars and history have clearly shown that this ideology is insufficient in design.

1.4 – History and Precedent:

The first objective of this thesis involves research and the study of precedents. Too often today historical successes are cast aside in favor of innovation. I believe the field of architecture and urban design needs to redirect itself towards using the past as a way to know and act, rather than just a catalogue of what once was. This thesis demonstrates the study of historical and theoretical urban design precedents are useful at all scales of design; from large-scale master planning to detail construction. The knowledge base provided by history and theory improves the effectiveness of design process.

Useful design precedents must be chosen based on the functional and pragmatic needs of the specific project; social, cultural, political, and economic issues surrounding the project and the people it serves; and relevant contextual conditions. Design precedents have the potential to aid and guide. However, contrary to what some may believe, design precedents are necessary – first because they inform design, second because design does not come from nothing.

I have heard the argument that utilizing design precedents is not an appropriate way to practice architecture. I have experienced in academia the effort to remove the study of precedents from design method. However, I contend that even if a design problem is approached without the intention of using precedents, experience of the built environment influences design choice. If the architect takes the extreme

position and chooses to ignore all precedents in design, the conscious effort of ignoring or casting aside means there is something being ignored or cast aside – a precedent. Therefore, design precedents are always a factor, either consciously or unconsciously. As such, design precedents should be embraced and regarded as invaluable.

1.4.1 – History and Precedent of New England:

The history and theory of New England town planning is vital in pursuit of my goals in order to acquire the necessary knowledge base to produce a comprehensive town plan that embodies the paradigms of historical and traditional models in New England. I believe in reviving New England's building and urban traditions that are both signature to the region and engage in the continuing history of architecture. These traditions help to create places people want to look at, live in, go to, come from, and be proud of.

A wide range of New England urban precedents demonstrate timeless and repeatable successes in planning as well as how these architectural and urban paradigms have contributed to New England's building tradition. These paradigms can be used as tools in design for the 21st century and beyond. Carroll William Westfall remarks:

> "At the site…are the materials and the traditions of working with those materials in producing the building. At the site…is the experience with producing an actual example of a building embodying the general type of building its purpose demands…And at the site…is the urban setting and

experience with modifying it that can be adapted for use in this particular situation."[5]

Though these words speak of a building, they can easily be applied to all scales of design. At the site are all the tools and guides that are necessary to complete this thesis project and uphold the assertion that traditional town planning paradigms are timeless solutions.

1.5 – The Classical and the Traditional:

Embodied in this thesis are classical and traditional paradigms proving they are viable methods that can be employed today. Classical and traditional architecture engage in and access historical and theoretical precedents as well as provide a knowledge base for design.

It is important to understand that classicism is not a style. Classicism is a way of knowing and practicing architecture. The use of the term style is a means of classifying or comparing; this thing looks like that thing, or this thing does not look the other. It is a term that distinguishes characteristics of structure or ornamentation.

Classicism transcends place and time whereas style is defined by place and time. Style categorizes common characteristics prevalent in a variety of models that create a datum used to identify and classify the thing(s) according to time, place, culture, and taste. A style has specific kinds of structure or function and is always related to an identifiable aesthetic. In most usages, the term style is similar to the terms fashion or trend. Fashions and trends are subject to the external conditions that define them. Classicism is not limited by these conditions; it is a means, not a result.

[5] Carrol William Westfall, "This Issue Transcends Style." University of Notre Dame (2002): 7.

Classicism is not just about the characteristics of models – it is not bound by any specific kind of structure, function, or aesthetic. Classicism deals with typology, paradigms, tradition, precedents, design method, the continuum of history, a specific knowledge base gathered from centuries of experience and execution, and a way of illuminating Architecture. It evolves through time, shaping and being shaped by the world, both consciously and unconsciously.

Clearly, classicism is the most refined form of traditional architecture – they are one and the same, working together simultaneously. The paradigms found in the vernacular are common to those in the monumental. Every culture of the world has its own traditions, one of which being its own architecture. As such, every culture also has its own classical architecture rooted in those traditions. The classical architecture of the western world is far different than that of the eastern world, but both are of Classical Architecture. These cultures have their own appropriate national, regional, local, cultural, religious, and monumental traditions of architecture. Classicism is the best of these traditions, rising above the vernacular to be something special while satisfying specific intentions.

Tradition, the foundation of classicism, is not a myth from the past, unattainable or unfit for the future. It is not a style. Tradition provides knowledge. It informs and guides the present and future. Using traditional models as sources of information lead to enlightenment. For example, studying a traditional type of construction leads to applicable knowledge of construction. The style then becomes secondary to the knowledge of how to execute the thing. That knowledge can then be applied in other design endeavors. This then allows for innovation. The same can be

said of studying traditional architecture. Study leads to applicable knowledge that can be used to benefit design.

Tradition is continuous and evolving through time. It engages in styles, but is not limited by styles. It encompasses all kinds of architecture, from the vernacular to the monumental. It reaches into the past and extends into the future. It accesses the knowledge base of architecture and provides applicable knowledge for design. Most importantly, tradition allows for innovation while maintaining connections with what is recognizable, repeatable, and historically consistent. Quatremere de Quincy's historical dictionary of architecture[6] remarks new buildings are produced by applying knowledge gained from the study of tradition; i.e. gained from the study of types, paradigms, and precedents.

1.6 – Typology:

Typology is essential in understanding and designing the city. Type and typology is a way to know architecture and urban artifacts; it provides rules for design and access to ideas. Types are the way the cognitive mind understands and comprehends the city.

Raphael Moneo wrote thinking typologically allows for one to think in groups.[7] This is the cognitive process that the mind uses to think, reason, remember, etc. Thus, typological thinking is a way to know architecture. Type allows architects and the general public to understand architecture, to understand architecture's role in society, and to understand how we express the way in which we live in the world.

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[6] Samir Younes, *The True, The Fictive, and the Real: The Historical Dictionary of Architecture of Quatremere de Quincy* (London: Papadakis, 1999).
[7] Moneo, Raphael. "On Typology," *Oppositions* , 13:36-54. 1978.

Dana Cuff also explains the relationship between knowing architecture through typology. She writes, "Buildings are part of our cultural heritage, reflecting our collective concerns…buildings may be collectively conceived; that is…architecture as a social construction."[8] Typology is a way of collectively conceiving of buildings. Both architects and society know by type.

Quatremere de Quincy defined type as the original reason for being of the thing – the initial idea. He also elaborated that type is the rule, or set of rules, for the model.[9] Aldo Rossi, one of the great urban theorists of the last century, wrote that type is the essential nature inherent in the architectural object or the urban artifact that leads to the built expression of that type.[10]

In both definitions, type is *a priori* – knowledge that starts from a set of general, abstract premises that is available before the design process begins. The type serves as the set of rules that provide structure to make the architectural object or urban artifact understandable and successful. In this thesis, the types, both architectural and urban, are those found in traditional New England town planning and architecture.

Rossi also outlines how the urban types of the city develop in relation to both time and place, maintaining some of the original values and functions while altering others.[11] Those values and functions retained by the urban artifact through time and place are the essential properties. In other words, the type of the urban artifact is

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[8] Cuff, Dana. *Architecture: The Story of Practice.* Cambridge, Massachusetts, MIT Press, 1991. pg. 4.
[9] Younes.
[10] Rossi, Aldo, *The Architecture of the City* (Cambridge, Massachusetts: The MIT Press, 1982).
[11] Rossi.

defined by those retained values and functions of the specific culture, society, and history.

As mentioned, the intellect can recognize the type. This process of recognition relates directly to Plato's idea of knowledge. Plato claimed that knowledge is not created, it is recalled. The knowledge is always there, available to the mind. As such, type is, and should be, easily identifiable. Recognizable typologies should be both the starting point and the finished product of the design process.

The issue comes down to choosing the right type appropriate for the conditions surrounding the type while also providing for the specific needs of the architectural object. Whether it is a space or a building, the appropriate type must be chosen based on applicable functional, formal, technological, and cultural conditions that can be recognized by those who use the object. Using types in the context from which they emerge ensures a greater possibility of success than using a type foreign to the context. Finding the rules of the type that fit the specific condition and the rules that need to be modified for the specific condition is critical when using typology in the design method.

CHAPTER 2: SITE RESEARCH DATA AND ANALYSIS

2.1 – The Site:

The description and analysis of the site are broken down into three subsections: the physical site description, a brief history of the site and its surroundings, and the rationale behind selecting this site for the thesis project.

The site offers an excellent opportunity to complement the theoretical agenda of this thesis with aesthetic appeal. It also provides special conditions that not only present design opportunities, but also enhance the overall project by giving more force to the ideological planning methods of the thesis. Fortunately, the site is physically, though not politically, ideal for a comprehensive plan that takes full advantage of its unique characteristics.

2.1.1 – Site Description:

The site for this thesis is located along the Connecticut shore in the township of Old Lyme, Connecticut. Old Lyme is in southeastern Connecticut, in New London County, on Long Island Sound near the mouth of the Connecticut River. The township covers an area of 27.1 square miles and is home to 9,303 residents. (Refer to chapter 2, section 2.3 for complementary graphic material.)

Old Lyme was founded near the old Boston Post Road (Route 1) that once connected New York, Providence, and Boston. Today, Old Lyme sits just south of Interstate 95. The Interstate serves as the primary means of access up and down the coast. It provides a link to other amenities and necessities for living, such as large

commercial resources in the cities of Saybrook and Niantic, light industry in the surrounding region, and both blue and white-collar job opportunities. It also connects the area with New York City to the south and Providence and Boston to the north. Shore Road (Route 156) is the main access road to and from Old Lyme Shores, connecting the communities to each other, to Route 1, and the Interstate.

The climate (Table 2.1.1.1) of the region is typical of New England coastal areas. The summers are the warmest months with the most sunshine, providing warm temperatures with reasonable humidity. The breezes from the ocean keep the temperature a few degrees cooler at the shore than at inland locations. Summer rains keep the foliage lush and green, interrupting the warm sunny days every so often. The fall and winter months are typical of New England, with rain and snow. Temperatures stay around freezing in the heart of winter. During these months, the humidity and light winds along the coast reinforce the cold winter weather. The spring offers variable weather, ranging from cold temperatures to seasonably warm. Given that Connecticut is so far north, spring arrives later than in more southern states with plants and flowers blooming in April and May. The typical seasonal weather at the coast arrives near the middle of May.

Climate for Old Lyme, Connecticut and surrounding areas:

*Data from National Climatic Data Center, United States Department of Commerce (Spring 2005)
http://www.ncdc.noaa.gov

Precipitation	40-50 inches annually
Average Tempurature	50-55 degrees (F) annually
Mean # of days > 32 degrees (F)	90-120 annually
Mean # of days < 32 degrees (F)	0-15 annually
Mean wind speed	10 m.p.h.
Prevailing wind direction	south-east
Mean number of clear days	75-90 annually
Mean relative humidity	66-75% annually

Table 2.1.1.1
Climate Data for Old Lyme, Connecticut and surrounding areas. Resource: The National Climactic Data Center, United States Department of Commerce (2005).

The site is flanked by two suburban developments, Old Lyme Shores to the west and Point O'Woods to the east, with more recent development to the north of Shore Road and the railroad. Old Lyme Shores and Point O'Woods are mainly seasonal communities, however a few residents live at the shore year-round. The suburb to the north is a typical Connecticut suburb, not seasonably driven, which serves the growing community of Old Lyme.

The boundaries of the site edge the communities of Old Lyme Shores and Point O'Woods to the west and east respectively, bridge across Shore Road and the railroad tracks to the north, and extend down to the water edge to the south. The area of the site measures 280 acres (0.44 square miles.)

Current development on the site consists of one long, single-lane, privately owned dirt road that runs from Shore Road to Hatchett Point along a gentle ridge in the middle of the site. A few houses dot the landscape near Hatchett Point. This stretch of land is privately owned and operated, limiting public access to the site and the waterfront.

The topography of the site is quite varied. A gentle ridge runs down the middle of the site. On the east side of the ridge is Big Pond; on the west, Little Pond; two relatively large ponds for their coastal location – and unique natural features of the site. The flattest areas of the site surround these ponds. Several gentle hills overlook the ponds and the shore. Hatchett Point, the terminus of the ridgeline, is an elevated location, projecting into the Long Island Sound offering views up and down the coast to both Old Lyme Shores and Point O'Woods.

Deciduous trees native to the Connecticut shore cover most of the northern half of the site. Few conifer species can be found on the site. Natural grasses cover the undeveloped wind-swept open areas near the shoreline. The landscaping of the developed land is overgrown, not maintained, and/or in disrepair. These spaces need to be reclaimed. Beaches stretch along the water edge, interrupted by rocky outcroppings in a few locations, the most prominent being Hatchett Point.

Between the site and Point O'Woods are salt marshes that lie in the 100-year flood plane. These salt marshes have been designated a wildlife preserve, though they are not recognized by the state government. Threemile River runs through the marshes into the Long Island Sound. Heavy rain and snow often saturate these marshes and water is collected in shallow ponds for brief periods.

Armstrong Brook, on the west side of the ridge, runs through the site and serves as a natural boundary to the planned expansion of Old Lyme Shores. The Penn Central Railroad from New York to Boston borders the north. To the south, across the Long Island Sound, is Long Island, easily visible on a clear day.

2.1.2 – Site History:

Though the English colonized New England, a majority of Connecticut settlers came from Massachusetts, either across the northern border and down through the valleys, or along the coast and up the Connecticut River. Coast towns were often sited in salt marshes for ease in clearing the woods and to provide grazing for animals, with access to the water an essential.

Old Saybrook, west of the site, initially founded in 1623 by the Dutch, was later claimed by the English in 1635. It is the oldest town on the shoreline of Connecticut. As it grew, settlers began to move farther away, both up river and along the coast. Once the settlers received permission to form their own parish, towns like Lyme, Old Lyme, Westbrook, Chester, and Essex were formed.[12]

The mouth of the Connecticut River was an important center for coastal trade and transportation. Ships sailing to and from North Cove, the harbor of Saybrook at the mouth of the Connecticut River, traveled to Europe, Africa, South America, and the West Indies. The date of settlement for Old Lyme is not certain; however by 1678 there were enough inhabitants to form the Lyme First Society. In 1855, Old Lyme was incorporated.[13]

Old Lyme Shores and Point O'Woods are suburbs of the township of Old Lyme. They were developed in the early and mid 20th century as seasonal communities. The suburban development to the north is relatively recent, occurring over the last three decades. Minimal development takes place in Old Lyme Shores and Point O'Woods while the northern suburb sees the majority of new homes. Other

[12] Old Saybrook Chamber of Commerce, website: http://oldsaybrookct.com/about.htm#History. (2005).
[13] Old Saybrook Chamber of Commerce, website.

new developments near the site have been planned on small parcels of available land up and down Shore Road between existing cities. These, however, are mostly cul-de-sac or gated bedroom communities.

The communities of Old Lyme and its surrounding neighborhoods consist of three demographic types: white-collar families, retired couples, and middle-age couples. (Table 2.1.2.1) The communities are not locations for new homesteaders or young couples, due to the above average cost of living and the lack of job growth. (Table 2.1.2.2) However, children, teenagers, and young adults frequent the area as members of the families who own houses in the communities. The summer months especially see a large population of young people who stay with their families and/or who are employed in local establishments.

Demographic Types for Old Lyme, Connecticut and surrounding areas:

*Data from CLARITAS, PRIZM, and Spielberg's Best Places (Spring 2005)

http://www.houseandhome.msn.com/

Community Type	**Suburban**
Elite Ex-urban Families	Type 1
% of Old Lyme	50.82%
Age Group	35-54
Housing Type	Owners - Single Family
Socio Economic Rank	Wealthy
Type	White-collar families
Retired	Type 2
% of Old Lyme	30.66%
Age Group	55-65+
Housing Type	Owners - Single Family and Multi-unit
Socio Economic Rank	Middle
Type	Retired couples
Scenic Ex-urbs	Type 3
% of Old Lyme	13.72%
Age Group	35-54
Housing Type	Owners - Single Family
Socio Economic Rank	Affluent
Type	Couples and White-collar families

Table 2.1.2.1

Demographic Types for Old Lyme and surrounding areas. Resource: CLARITAS, PRIZM, and Spielberg's Best Places. http://www.houseandhome.msn.com.

Demographics for Old Lyme, Connecticut and surrounding areas:
*Data from CLARITAS, PRIZM, and Spielberg's Best Places (Spring 2005)
http://www.houseandhome.msn.com/

	Old Lyme	Regional Avg.	National Avg.
Population	9,303	10,411	9,429
Population density (sq. mi.)	158	1,849	1,179
Median household income	$70,067	$57,252	$39,702
Households	3,397	3,918	3,555
People per household	2.49	2.48	2.63
Median age	42	36	36
Median income	$41,266	$26,242	$18.60
Percent married	63%	56%	58%
Students per teacher	13	13.5	16
Violent crime risk	1	2	3
Property crime risk	1	2	3
Cost of living	126.9	108.9	100
Air quality	40	45	50
Watershed quality	63	61.4	50
Toxic sites	58	60	70
Unemployment rate	2.40%	2.55%	4.70%
Job growth	-1.87%	-1.82%	0.90%
Median home cost	$228,054	$153,973	$137,081
Home appreciation	9.54%	9.58%	6.27%
Median age of homes	33.1	29.9	27.8
Homes owned vs. rented	49.67%	63.01%	63.40%
Commute by bus	0.93%	0.67%	1.95%
Commute by carpool	8.15%	12.38%	14.57%
Commute by own car	82.52%	75.94%	71.60%

Table 2.1.2.2
Demographics for Old Lyme and surrounding areas. Resource: CLARITAS, PRIZM, and Spielberg's Best Places. http://www.houseandhome.msn.com.

Tourism flourishes in the summer months. These visitors include every type of demographic, from lower-middle class to the wealthy. The beach and the small communities characteristic of the New England summer lifestyle are enjoyed by all. There are both public and private beaches. The private beaches are reserved for

community members and guests. The public beaches allow anyone to enjoy the amenity.

Development on the thesis site has been stagnant for the last thirty years. After the first few houses were built, no other development has occurred. The large-scale landscaping has fallen into disrepair. The site is only used during seasonal months and only when the owners of the few houses visit the shore. Because some of the land is privately owned and the only means of access is a single dirt road, the site is regarded as off-limits. No public amenity enhancement has been permitted on the site.

In the last few years, a revitalization project for Soundview's main street has been a successful endeavor. Businesses are beginning to come back to the community and the residents are taking pride in the prosperity of their town. As a result, the entire community, including visitors, is enjoying an improved beachside experience. This growth and change indicate the desire to complement the housing communities with appropriate urban types, such as public buildings, amenities, and retail. A true sense of community is returning to Soundview as a result.

2.1.3 – Rationale for Site Selection:

The initial thesis intention, prior to site selection, was to design a new town on an undeveloped site that critiqued some of the current planning practice and ideology in the United States. The main idea was to use the paradigms of the Traditional City Type to produce a project that offered an alternative to the current conditions, and in

the course of that exploration, open avenues of investigation and hopefully provide possible solutions to the issues of today.

Leon Krier's "Atlantis" project, an academic exercise, has appealed to me throughout my education. As such, I desired to propose a thesis that could capture the same power as that project and be an example of what alternatives could be done on a real site while meeting current needs and planning for the future.

Having spent some time along the east coast during the summer of 2004, New England became an ideal place to propose this project for two reasons: first, the architectural and urban traditions of New England have been preserved throughout the years and should continue to be preserved; second, the New England summer community had the potential to be the reason-for-being for this proposal. These two considerations led to the choice of New England as the region in which to site this project.

The specific site was then chosen based on available land. All along the coast of New England, historic colonial towns and beach towns populate the shoreline. It was difficult to find enough available land (in terms of acreage) on a site that offered design opportunities for the town I desired to propose.

The site chosen fits the needs of the proposal. It offers an extensive stretch of coastline with existing beaches, natural features that are unique and provide special opportunities, and it is located between two pleasant seasonal communities that are very successful. The only hurdle is that most of the site is privately owned, not allowing for any public access. This condition makes more thorough investigation difficult and the reality of implementing the thesis improbable.

2.2 – The Region:

This section is intended to give a brief illustration of the communities surrounding the site. Subsection 2.2.1 is devoted to Old Lyme Shores, Point O'Woods, and the northern suburb. Subsection 2.2.2 covers the poor urban planning and design in the region. This poor urban planning constitutes a major problem that needs a solution. Successful models of beachside communities are being disregarded and replaced with these poorly designed and insufficient developments.

2.2.1 – Urban and Architectural Conditions Surrounding the Site:

One major benefit of the project site is its proximity to Old Lyme Shores. Old Lyme Shores is a very successful beachside community. Its paradigms are timeless – suitable to guide future developments. Old Lyme Shores serves as an excellent design precedent for this thesis because of these paradigms. It provides design information such as: housing types; urban types: architectural character, materials, and constructions methods; density, lot size, block size, volumetric and spatial ratios; and specific dimensions and scales appropriate to function and use.

Old Lyme Shores also offers an example of the type of beachside community that is very successful socially, politically, and economically. The community is engaging and supportive, a quintessential model of the New England summer lifestyle. It is managed by a town council that handles everything from maintenance to development to activity planning. It is also an area in high demand, making home

purchase a good long-term investment while generating revenue from cottage rentals and the new commercial activity of Soundview's main street.

The community is a place where all the neighbors know each other. Children have many friends to play with; they are free to walk around the neighborhood and down to the beach because it is a walkable community; they are in no danger of reckless automobile traffic because the streets are designed for the pedestrian. Couples enjoy porch-sitting, sun-bathing, and chatting with the passing neighbor from their front porch. Teenagers and young adults spend summers living and working in the community. Holidays, such as Memorial Day, Labor Day, the Fourth of July, are all community celebrations with parades and games. Old Lyme Shores captures the ideal New England summer lifestyle that is so valued by natives and sought after by visitors.

Point O'Woods is another successful community, though not as successful as Old Lyme Shores. I believe this lack of success is partially a result of certain urban design elements. First, Point O'Woods has a warped street pattern, generated by the topography of the site. This makes navigation and orientation difficult. Second, it does not have a strong relationship to the water. Public access to the water is available and houses are sited to take advantage of views to Long Island Sound, but the urban condition is not as positive as Old Lyme Shores. I believe this is because the streets of Old Lyme Shores are perpendicular to the water, allowing everyone to have a view of the water from nearly a mile from shore and providing multiple means of access to long stretch of beach. This aids pedestrian orientation and provides multiple means of access to the amenity. Third, the topography and street grid makes

the community less walkable. Fourth, too few public and commercial types exist to complement the housing. Fifth, the access to Point O'Woods is only by means of one road, making the community seem gated rather than public. Sixth, the beach and waterfront are not as well developed as in Old Lyme Shores, leaving much to be desired out of the major public amenity. However, with that said, Point O'Woods does capture the idea of a beach community and its architecture relates to regional and historical traditions of New England.

The northern suburb, across the Penn Central Railroad, is not like Old Lyme Shores or Point O'Woods; it is not a beach community. It is a typical suburb of Old Lyme. Old Lyme Shores and Point O'Woods are mainly seasonal communities while the northern suburb is year-round. Architecturally and urbanistically, the site offers little opportunity to relate to the water. As such, the types of houses and urban patterns designed in this development relate more to the rest of the state than to the beachside types up and down the coast.

The northern suburb presents a problem in urban development – the tendency to design developments with cul-de-sacs, overly wide roads, low density single-family housing, mono-functional land-use, no urban edge, no street wall, large lots with buildings pulled away from the edge, and inconsiderate consumption of natural environments. This ideology made its way onto the thesis site during the design of the few houses near Hatchett Point.

The gallery of plates (Plates 1 - 5) at the end of this chapter contain images of these three communities. The captions offer further explanation and insight into each of these urban conditions.

2.2.2 – Poor Urban and Architectural Planning in the Region:

The gallery of plates (Plates 6 - 9) at the end of this chapter is a sample of the current development in the region surrounding the site. The first few plates are from in and around Old Lyme Shores. The last few are from Saybrook. These developments, within a four-mile radius of the proposed site, are the result of the fallacious planning ideology apparent throughout the United States.

All the sites shown are in close proximity to the shore, within 1300 feet. However, none take advantage of the site context such as the waterfront, the topography, unique natural features, the climate, historical precedents, etc. All site conditions are ignored and the resulting developments are independent of site, region, culture, and tradition. Though these developments meet immediate market need, they are examples of what not to do in future planning.

The architecture of these developments also fails. Given the close proximity to the water, the buildings unfortunately are in no way designed to be beachside buildings. Further, they do not relate to the history and tradition of New England. Rather they are off-the-shelf solutions that could be anywhere in the country.

The materials used in construction are not necessarily foreign to the region, however I believe certain materials, construction methods, and details of the New England tradition have been ignored in favor of bland manufactured solutions. The siding of these developments is a prefabricated vinyl type designed to look like wood rather than the wood siding typically found in New England. Brick is a traditional building material used throughout New England, yet in these contemporary designs, it

is not used. The roofs and details are also a prefabricated type not based on precedents found in New England.

The housing developments examples are designed to be mono-functional bedroom communities, and as such are introverted, failing to create a sense of community, identity, or character. These examples are designed around the automobile. The garage and the driveway are given the largest portions of the front yard and front façade in both single-family and multi-family types. There are no sidewalks, bike paths, or pedestrian accessibility. The only way to get in and out of the home or the neighborhood is by car.

The apartment and shopping complexes give the parking lot the majority of the site and only cater to the needs of the automobile while ignoring the needs of the pedestrian. A pedestrian has an extremely difficult time participating in these examples.

Regardless of functional type, the land-use/lot-use is inefficient in these examples. The shopping complex is pulled back away from the street. This removes the storefront from a possible pedestrian throughway. The majority of the lot is given over to un-used parking, preventing an increase of retail square footage on the site. The apartment complex is also pulled away from the street and introverted. The front doors of the apartments do not face the street; rather they face the interior parking lot of the complex. Further, the façade designs do not take advantage of views at the waterside location. Though there are balconies, one would not know that the apartment complex is within 200 feet of the water.

In the suburb north of the site, the houses sit on more than an acre of land, yet none of that land is used for any purpose, whether it be farming, gardening, or recreational. As a result, the houses are far apart from each other, pulled away and isolated. They have no relationship architecturally, urbanistically, or socially.

These developments do not create any desirable urban condition, such as the urban street, the urban wall, the block, the square, etc. These types are critical in traditional architecture and urban planning.

In each case the density is far too low resulting in inefficient land use and inconsiderate expansion into natural environments. Architecturally, these developments look like they were bought out of a catalogue rather than being designed to fit their context. They do not enhance the character of the site or the unique features. There is no sense of place. In fact, placelessness defines the experience of these examples.

2.3 – Site Information:

The site offers a wide range of design opportunities as well as obstacles. The two best characteristics of this site are the topography and the varied shoreline. A strong north-south ridgeline runs down the center of the site. This provides a design generator for the urban form of the new town. Various high points offer great views of the site and Long Island Sound. The changing topography leads to special conditions throughout the new town, both architectural and urban. The shoreline is a combination of beaches and rocky outcroppings – the most predominate being Hatchett Point. It serves as the terminus to the ridgeline and is a great arrival

point/destination, both from land and water. Beaches flank Hatchett Point and provide ample space for beach and waterside development.

The major failures of the current site development are: no public access, no comprehensive plan for development, the current conditions are under-developed, and worst of all, the site's potential is not captured.

2.3.1 – Existing Site Conditions:

The site information includes: maps of the state, county, and site; plans of the site and surrounding area; site photos; site boundaries; topography; existing structures; and other applicable information.

The site information of this section is presented graphically, rather than written, in the gallery of plates (Plates 10 - 20) at the end of this chapter. The captions provide the necessary explanation for each image. Refer to chapter 2, section 2.1, subsections 2.1.1 and 2.1.2 for a more extensive written description.

2.3.2 – Site Analysis:

The site analysis includes descriptive diagrams of current site conditions including: formal attributes such as figure/ground, axes, grids, centers, edges, scale, etc; environmental constraints such as slope analysis, soils, vegetation, and wetlands; growth trends and development patterns; and functional context such as land use patterns, access, and typologies.

The site analysis information of this section is presented graphically, rather than written, in the gallery of plates (Plates 21 - 32) at the end of this chapter. The

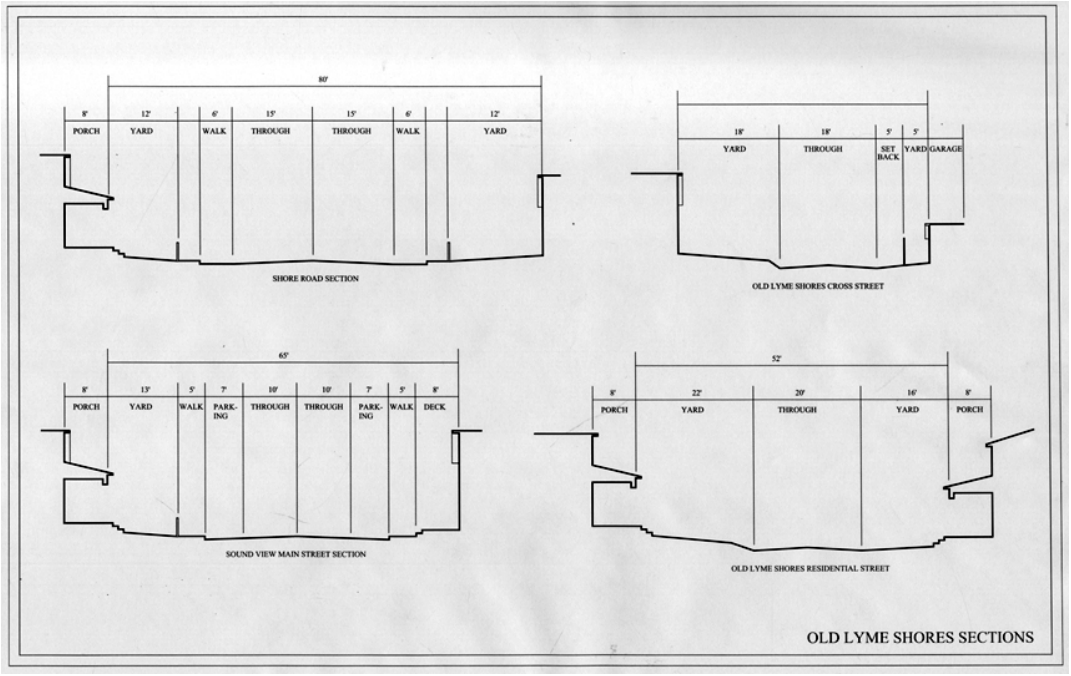
captions provide the necessary explanation for each image and offer further insight into the existing site conditions, available opportunities and potential resources.

2.2.1.1
View Down a Street in Old Lyme Shores. This view is typical of the streets that run perpendicular to the water in Old Lyme Shores. The water can be seen from a half mile inland. The urban and architectural scale is small. The street is pedestrian domain; the automobile is invited. The cottages create an imageable path by lining the street. The treatment of the landscape and hardscape is also worth noting.

2.2.1.2
View Up a Street in Old Lyme Shores. This view is typical of the streets that run parallel to the water. The urban and architectural scale is small. The street widths of Old Lyme Shores range from 18-25 feet. The lots are small, cottages edge the lot, and the density is moderate.

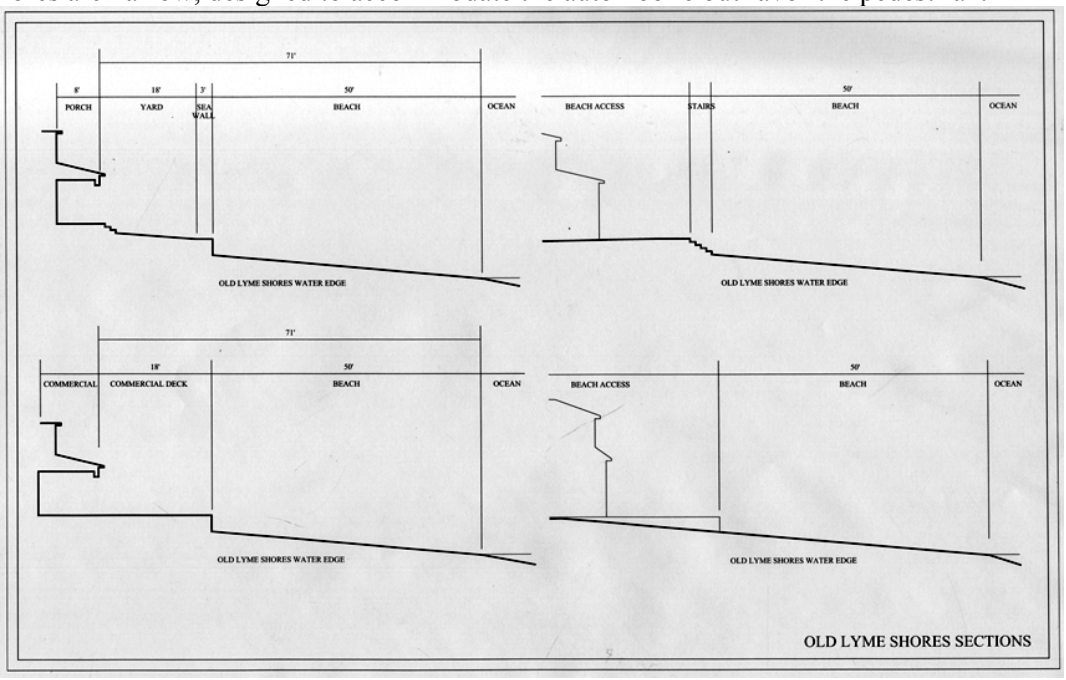
2.2.1.3
Cottages in Old Lyme Shores. Typical architectural types are shown in this image; two story houses with enclosed or open porches fronting the street. The set-back is not more than 15 feet. Houses are closely spaced and designed to create an imageable urban wall rather than stand alone on the lot.

2.2.1.4
Beachside in Old Lyme Shores. The typical architectural type is repeated at the shore edge. House-fronts face the water and create an imageable urban wall defining the urban and natural landscapes. The beach is public domain for all to use, reached via multiple access points.



2.2.1.5

Street Sections of Old Lyme Shores. These sections show the character, scale, and dimension of the streets in Old Lyme Shores. Shore Road, the widest and most heavily trafficked street does not exceed 36' of paved road surface. The secondary and tertiary streets of Old Lyme Shores are narrow, designed to accommodate the automobile but favor the pedestrian.



2.2.1.6

Waterside Sections of Old Lyme Shores. These sections show the different waterside conditions in Old Lyme Shores. All the roads terminate with a vista to the Sound. Public access to the beach is plentiful. A seawall defines the public beach and the private yard.

2.2.1.7
Street in Point O'Woods. The scale of the architecture and urban condition remain small, similar to Old Lyme Shores. However, the street pattern meanders over the topography and does not reinforce a relationship with the water.

2.2.1.8
Street in Point O'Woods. Houses line the street edge and create an imageable path. The street is the pedestrian's domain. Again the curving street pattern does not relate to the water nor does it fully capture site opportunities.

2.2.1.9
Street in the Northern Suburb. This image shows how the northern suburb is not an urban environment. The only things that address the street are the mailboxes. The roads are not designed for the pedestrian, only the automobile. This is the typical suburban development type of Connecticut. It is my contention that this is the wrong way to plan a community.

2.2.1.10
House in the Northern Suburb. This is the typical house/lot type of the northern suburb. The house is pulled back away from the street. There is no continuous urban wall. The houses are withdrawn from the community, intentionally designed to not participate in the larger whole. The houses do not have any architectural harmony. The use of the land is inefficient.

2.2.2.1
Suburban Development West of Old Lyme Shores. This development is relatively new. As shown in the photograph, the new trees and grass have just been planted. This development has no sense of place, no character, and is an urban failure.

2.2.2.2
Suburban Development West of Old Lyme Shores. This view terminates the road toward the water. Over the gentle hill and past the trees is the shore. No effort has been made to relate the development to the water.

2.2.2.3
Suburban Development West of Old Lyme Shores. This image shows one of the cul-de-sacs of the development. Only three houses are located on approximately six acres of land. None of the land is used for anything except lawn.

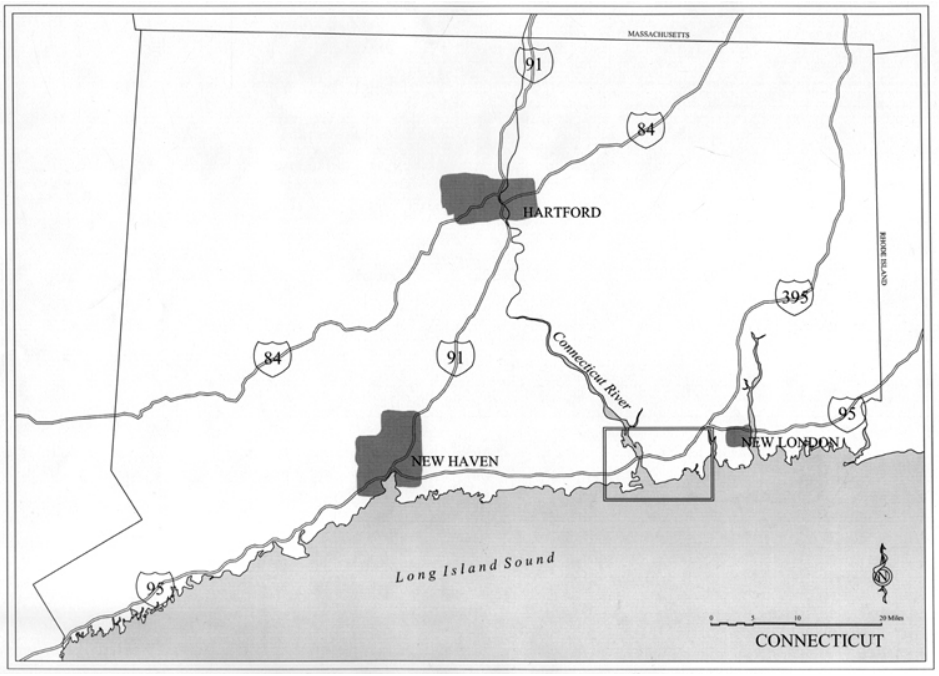
2.2.2.4
Suburban Development West of Old Lyme Shores. This image shows the street leading down to the end of the development. The design does not consider the pedestrian, only the automobile. The street edge is not defined by urban walls, only by paving.

2.2.2.5
Suburban Shopping Complex along Shore Road. The shopping complex is defined by the parking lot and signage rather than being a traditional recognizable type. No other indicator exists that this building houses retail. The parking lot and the automobile are given priority. The street edge is not a consideration in the design.

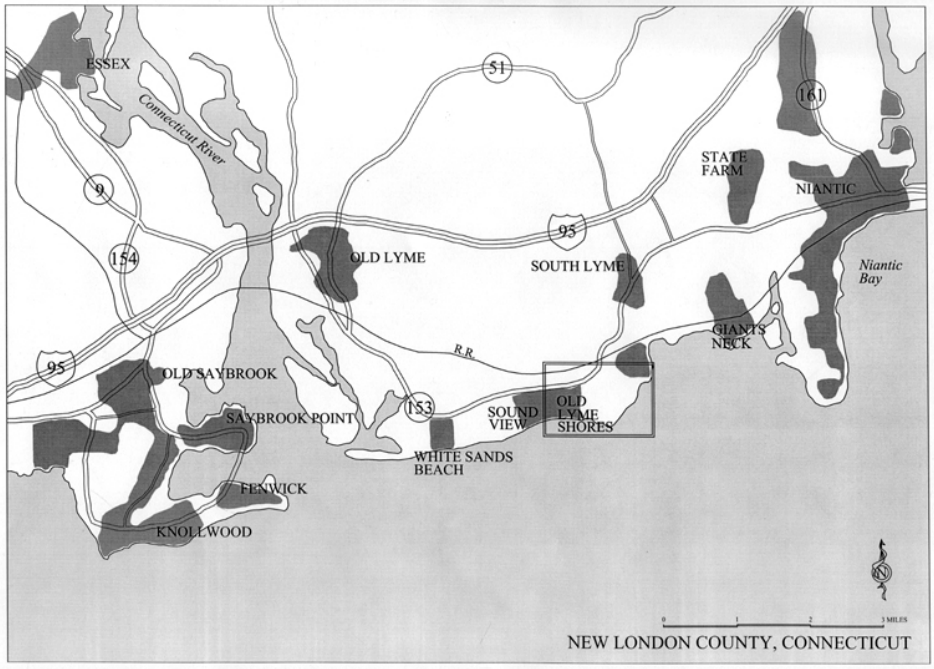
2.2.2.6
Apartment Complex in Saybrook. The back doors of the apartments/condos face the street. The front doors face the parking lot on the interior of the block. The complex is withdrawn from the street creating an ambiguous yard and leaving no street edge.

2.2.2.7
Housing Complex in Saybrook. The front yard, the front façade, and the street are completely given over to the automobile. The pedestrian does not belong. The garage occupies the most valuable face of the building.

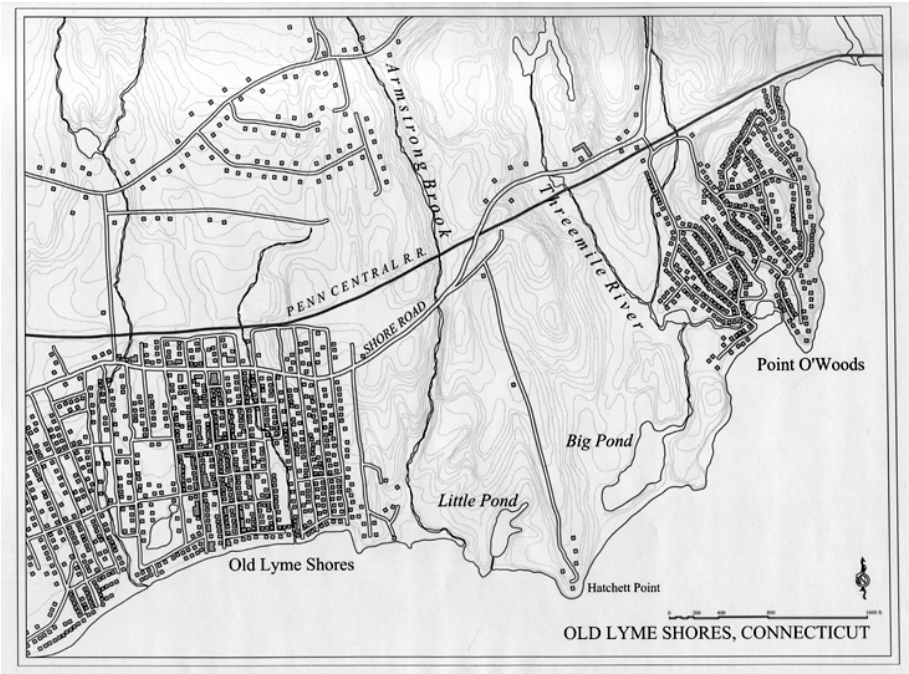
2.2.2.8
Housing Complex in Saybrook. This housing complex has just been completed this last year (2004.) This image illustrates the terrible planning and urban design not just in this region, but throughout the United States.



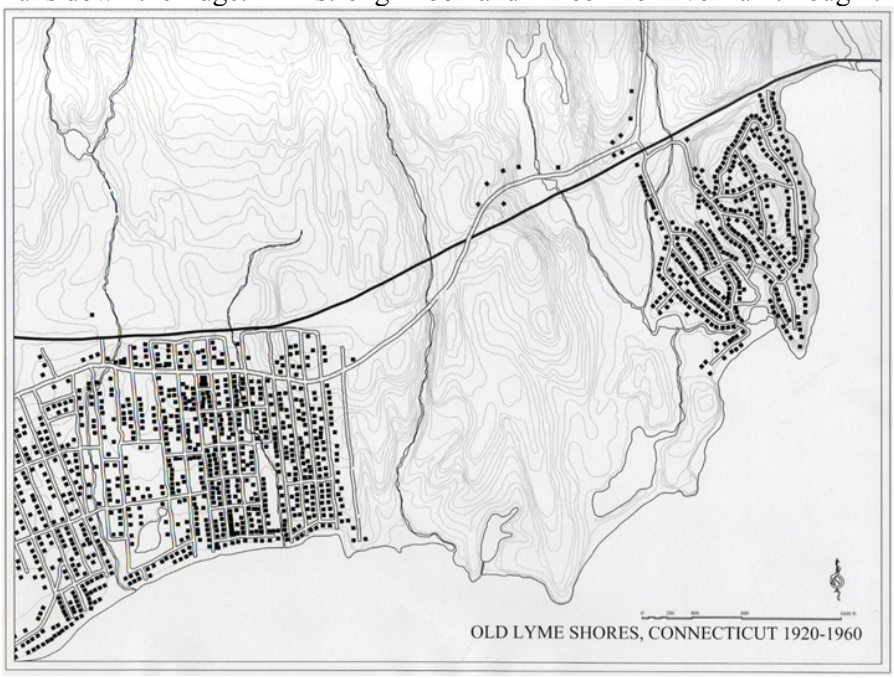
2.3.1.1
State Map of Connecticut. The rectangular box indicates the region where the site is located. I-95 runs along the coast connecting New York, New Haven, Providence, and Boston. Hartford is north along the Connecticut River. New Haven is approximately 40 miles west.



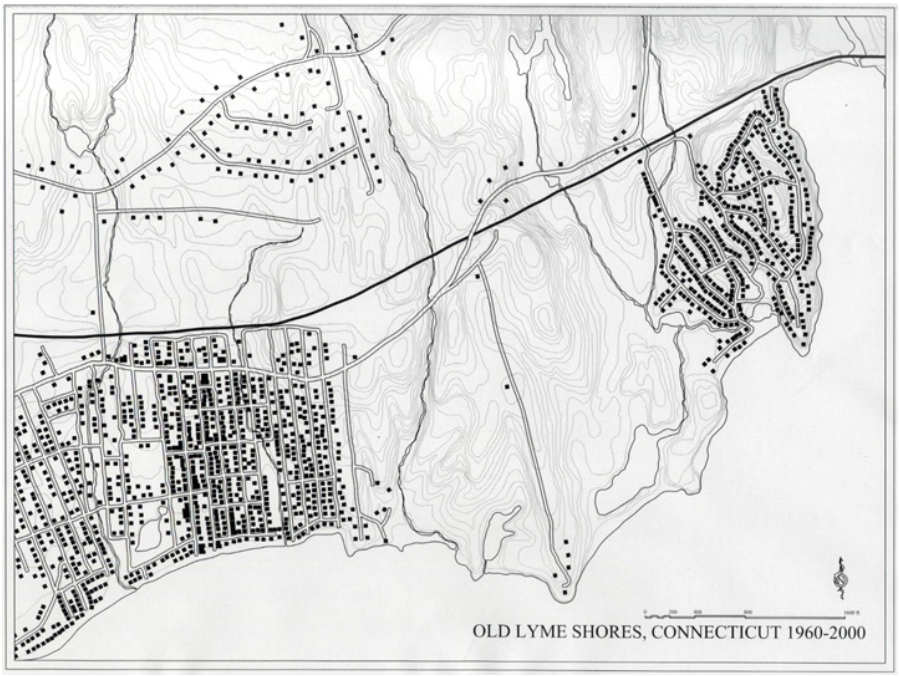
2.3.1.2
Regional Map. The rectangular box indicates the area where the site is located. Shore Road (Route 153) is the access road from I-95 and Route 1 to the site. The Penn Central Railroad runs along I-95, jogging down near the site. Old Lyme is three miles to the west along Shore Road, Saybrook is across the Connecticut River to the west, Essex is up the river, and Niantic is to the east. The coast is lined with small beach communities.



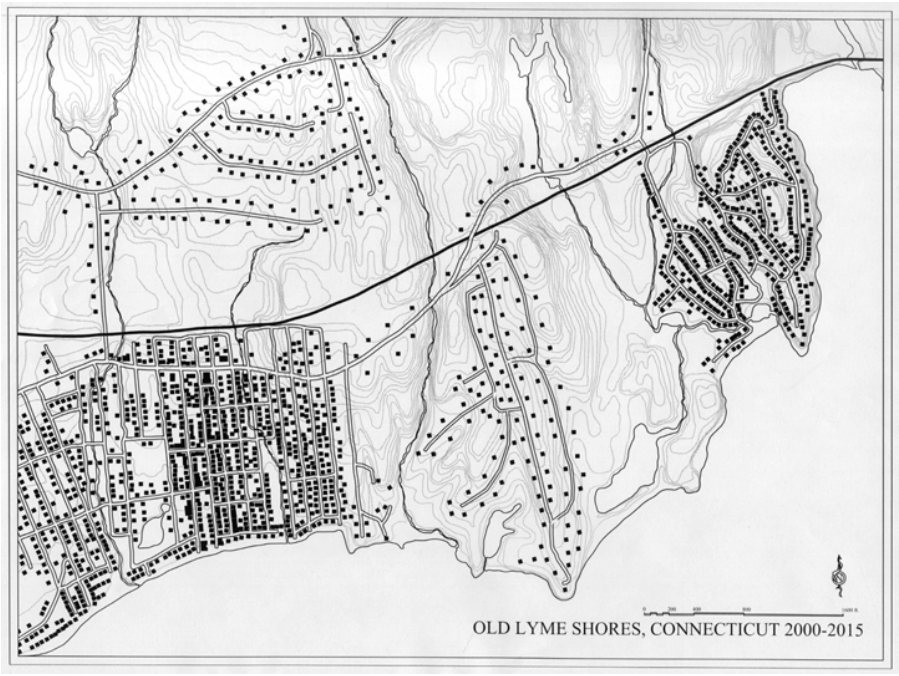
2.3.1.3
Local Area Map. This map shows Old Lyme Shores to the west, Point O'Woods to the east, Long Island Sound to the south, the Penn Central Railroad and Shore Road to the north, and the more recent Old Lyme suburb north of the tracks. Big Pond and Little Pond flank the dirt road that runs down the ridge. Armstrong Brook and Threemile River run through the site.



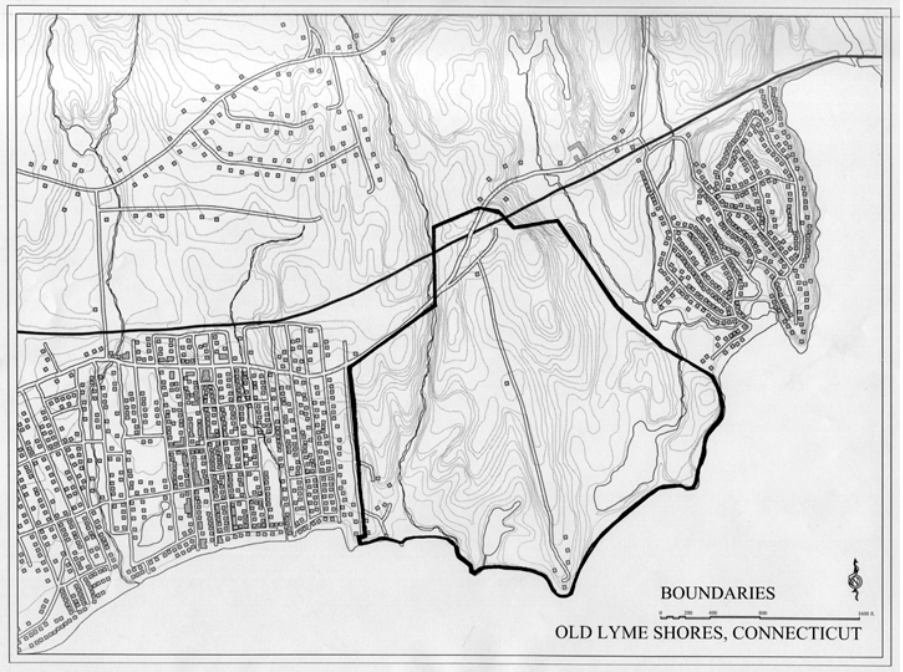
2.3.1.4
Probable Development Map. Old Lyme Shores and Point O'Woods were developed as seasonal beachside communities in the early to mid-20th century. This map assumes the time frame of 1920-1960.



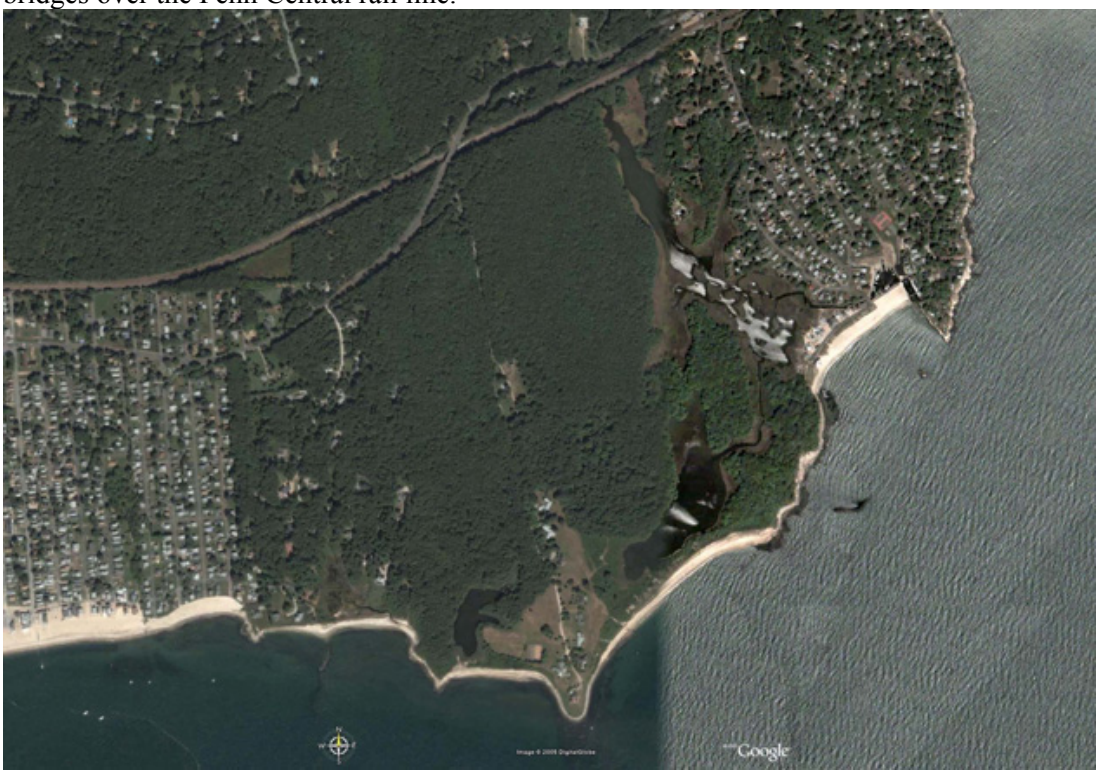
2.3.1.5
Probable Development Map. In the 1960's and 1970's, Old Lyme Shores and Point O'Woods began to fill out. The northern suburb was established to accommodate the growth of Old Lyme. The dirt road and houses at Hatchett Point were built. This map assumes the time frame of 1960-2000.



2.3.1.6
Predicted Development Map. This map illustrates the potential danger of the current fallacious planning ideology. If the site were to become available for development, given the current tendency in urban planning, this pattern of growth would develop. This map assumes the time frame of 2000-2015.



2.3.1.7
Rough Site Boundaries. The boundaries of the site edge Old Lyme Shores and Point O'Woods. They cross Shore Road and the railroad and extend down to the water's edge. This area measures 280 acres. The entire area is not available for development due to certain limitations such as a nature preserve, severe slope, and the condition where Shore Road bridges over the Penn Central rail line.



2.3.1.8
Aerial Photo. Source: Google Earth.

2.3.1.9
Road to Site. This private dirt road is the only access to the site. It accommodates one lane of traffic and runs along the ridge. The woods that densely cover the northern half of the site flank the road. In the distance is one of the houses on the site.

2.3.1.10
View to the East. This is the first view of the site after emerging from wooded road. In the distance is Big Pond with the Long Island Sound beyond. This point offers a special design opportunity. Capturing the value of all the site conditions is critical.

2.3.1.11
Image (1) of (5) of a 180-degree Site Photo: Looking South-west. The first in a series showing the current site conditions. The station point for the series is on the ridge line running through the site. This image clearly shows the undeveloped and derelict site.

2.3.1.12
Image (2) of (5) of a 180-degree Site Photo: Looking South. The second in the series. Again, this image shows how undeveloped the site is and what great potential the site has. At the end of the road and to the left are a few of the houses on the site.

2.3.1.13
Image (3) of (5) of a 180-degree Site Photo: Looking South-east. The current landscaping condition is in disrepair on the site. Further, the houses are not contextually or architecturally related; rather they are designed as typical suburban houses. No urban condition exists. The architecture denies the traditions of the region.

2.3.1.14
Image (4) of (5) of a 180-degree Site Photo: Looking East. This image further illustrates the need for comprehensive development. The current architecture and landscaping do not take advantage of the site nor do they enhance the amenities of the site.

2.3.1.15
Image (5) of (5) of a 180-degree Site Photo: Looking North-east. Big Pond is in the background. The woods surround the north side of the Pond and cover the north half of the site.

2.3.1.16
Image (1) of (4) of a 180-degree Hatchett Point Photo: Looking North-east. This image is the first in a series showing the views from Hatchett Point. The station point for the series is on Hatchett Point. This image shows the beaches and the great views up the coast.

2.3.1.17
Image (2) of (4) of a 180-degree Hatchett Point Photo: Looking East. Hatchett Point serves as a fantastic destination and arrival point both by land and water.

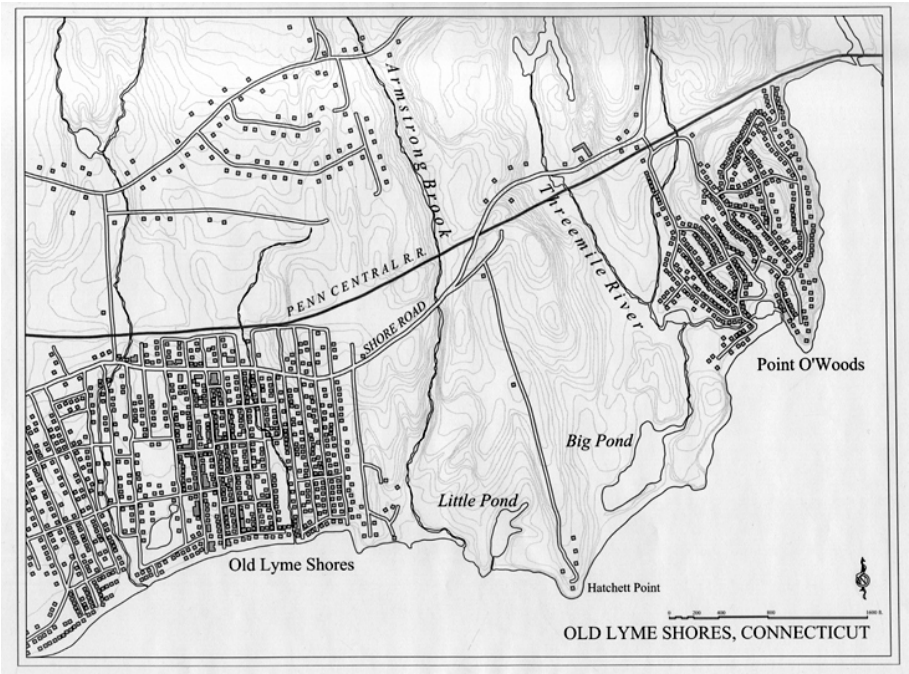
2.3.1.18
Image (3) of (4) of a 180-degree Hatchett Point Photo: Looking South. Hatchett point is a large open area that provides views in all directions. It juts out into Long Island Sound on a rocky outcropping. In the distance is Long Island.

2.3.1.19
Image (4) of (4) of a 180-degree Hatchett Point Photo: Looking West. Beaches flank both sides of Hatchett Point. These beaches should be enhanced as public amenities. Little Pond is covered by the foliage to the right. Beyond are Old Lyme Shores and Soundview.

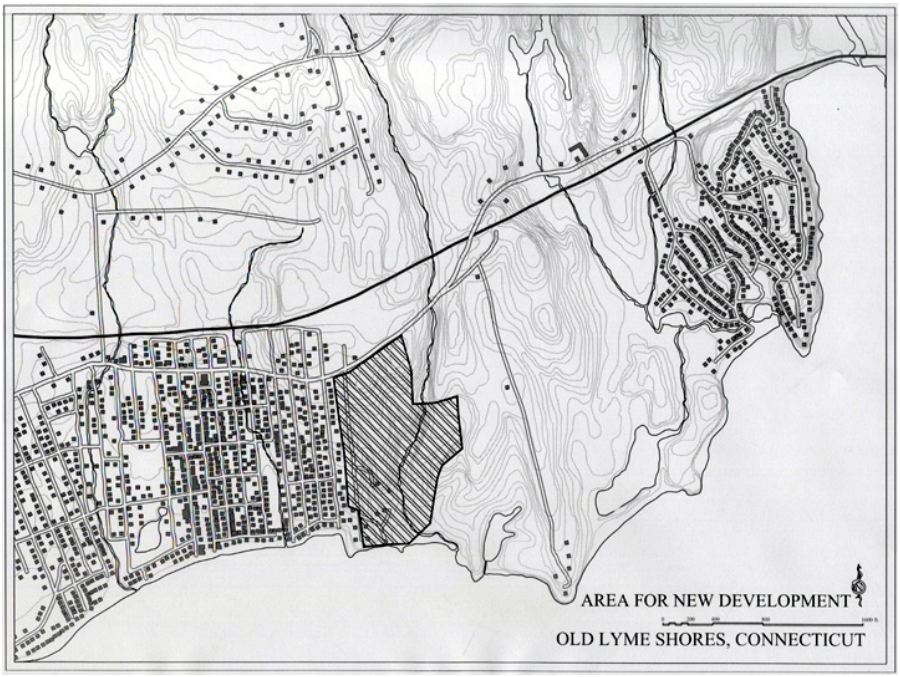
2.3.1.20
The Salt Marshes: Looking north. These salt marshes are located between the site and Point O'Woods. They have been designated a nature preserve. The marshes occasionally fill with water after rain or snow. These marshes lay in the flood plane along the east side of the site.

2.3.1.21
View from an Eastern Hilltop of the Site towards Point O'Woods. Both Point'O Woods and Old Lyme Shores are in close proximity to the site. These natural grasses found on the undeveloped areas of the site provide a wonderful landscape.

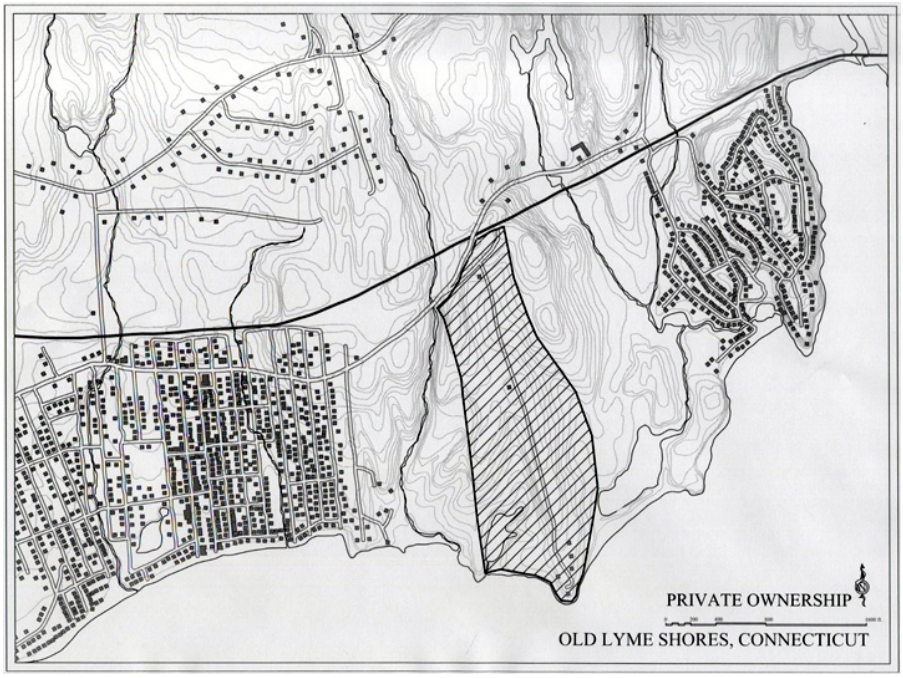
2.3.1.22
View of one of the Beaches between Point O'Woods and Hatchett Point. These beaches provide a reason for being for the new town. They also offer opportunities in design, both urban and architectural.



2.3.2.1
Site Map.

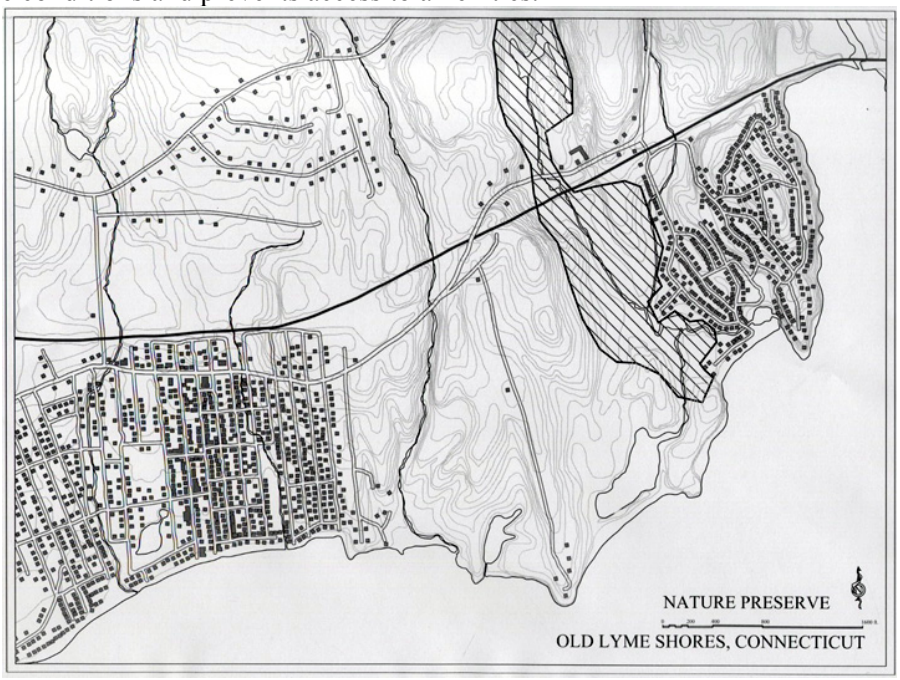


2.3.2.2
Area for New Development. The hatched area indicates the land slated to be developed in the near future for the expansion of Old Lyme Shores. The houses on this land are year-round, not seasonal. There exists no comprehensive plan for development for this area; it is merely indicated as land for sale. The eastern edge of Old Lyme Shores is suitable for expansion and its tattered edge needs mending.



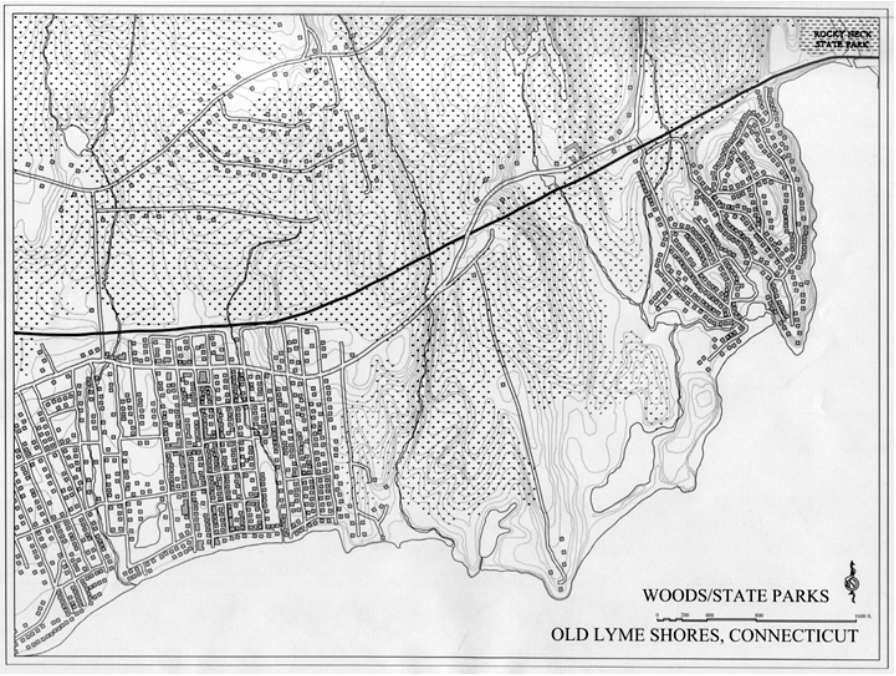
2.3.2.3

Privately Owned Land. The hatched area indicates the land that is privately owned. The development of this land has been stagnant for 30 years. It is regarded as off-limits to visitors and other members of the community. The development on this land does not take advantage of the site conditions and prevents access to amenities.

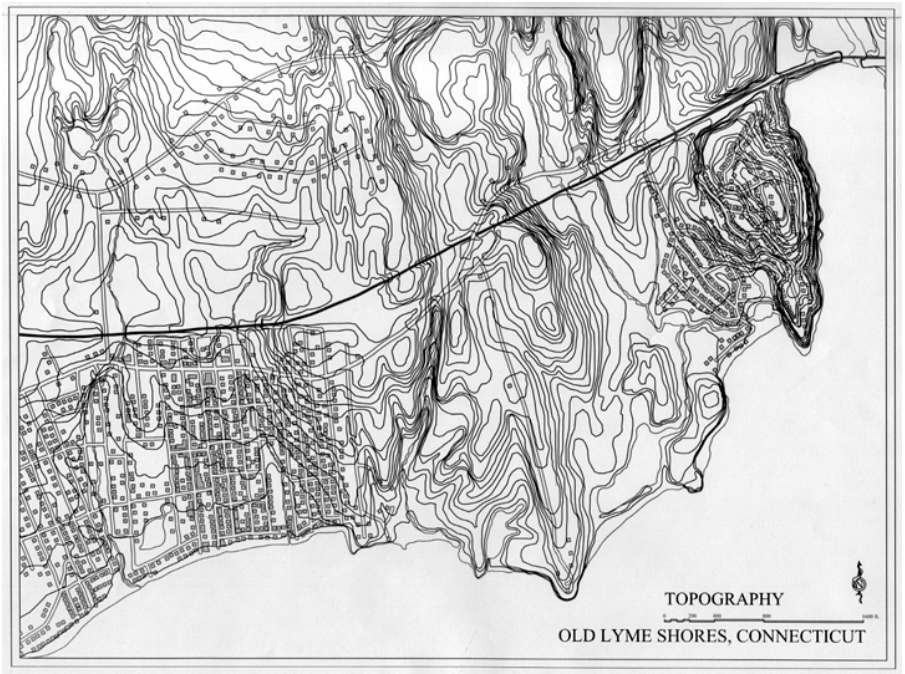


2.3.2.4

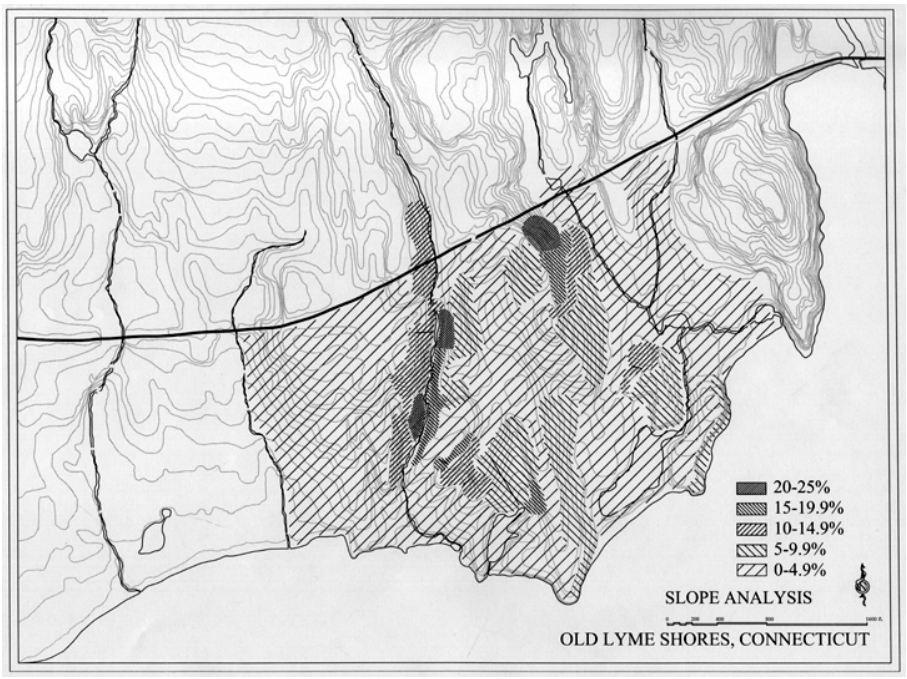
Nature Preserve. The hatched area indicates land the has been deemed a nature preserve. Though the state government does not recognize this area as a nature preserve, the surrounding communities wish it to be preserved. The nature preserve is located in the salt marshes along the Threemile River. These marshes often fill with water during after rain or snow for short periods of time.



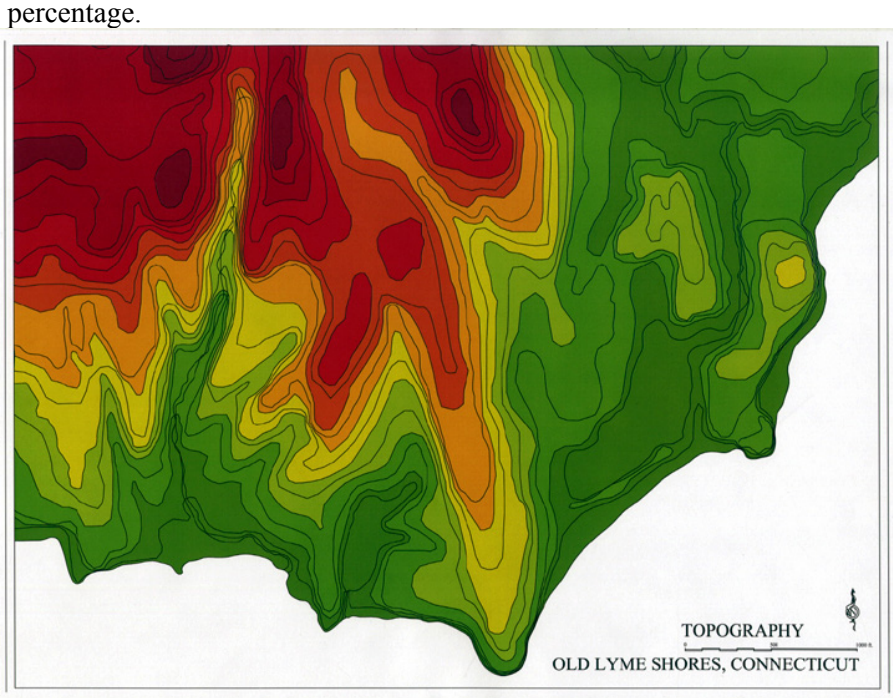
2.3.2.5
Natural Woods and State Parks. The dotted areas indicate the natural wooded areas of the site. Most of the northern half is covered with deciduous trees. Hatchett Point, Big Pond, and Little Pond are wind swept areas free of large foliage. Rocky Neck State Park is northeast of the site.



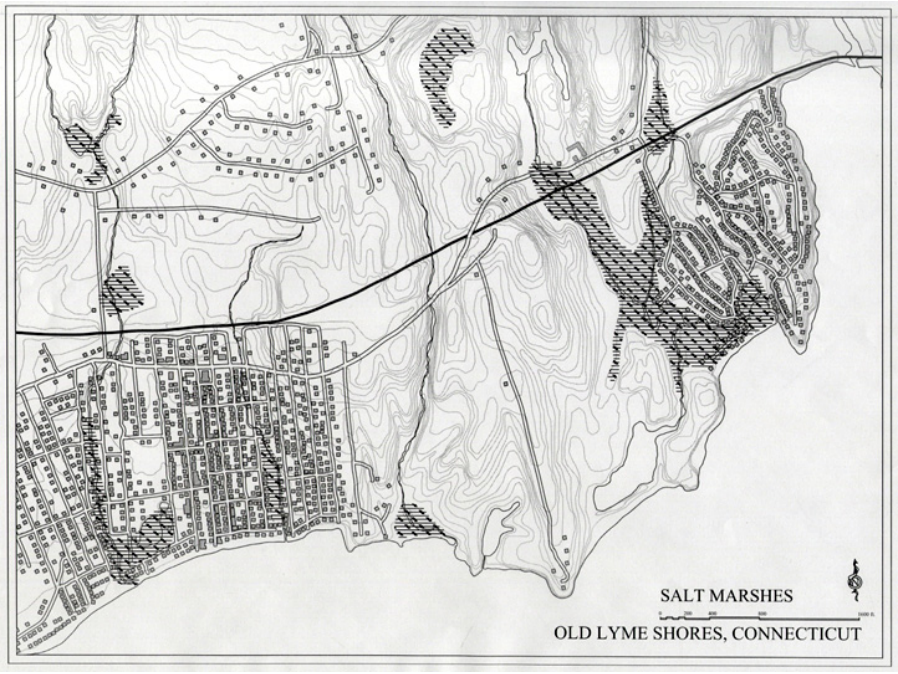
2.3.2.6
Topography. The topography of the site offers excellent opportunities for development. The ridge line is a strong natural condition through the middle of the site. The salt marshes are the lowest area of the site. Old Lyme Shores sits on a gentle slope from the railroad to the shore while Point O'Woods is sited on two hilltops that overlook Long Island Sound.



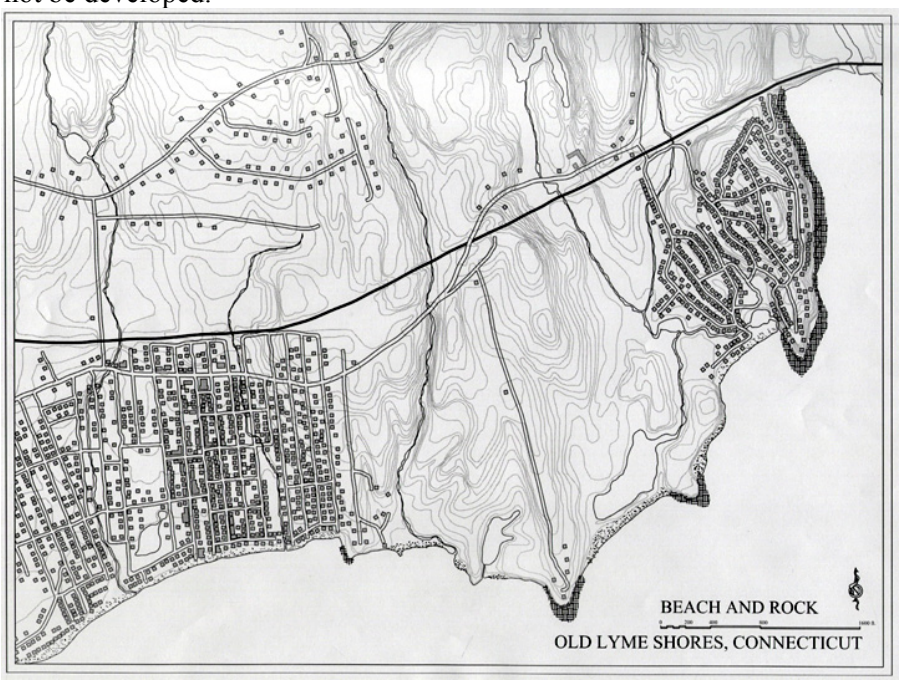
2.3.2.7
Slope Analysis. The slope percentage of the majority of the site ranges from 0-9.9%. Steeper slopes exist in a few locations; as dramatic as 25%. The intensity of the hatching indicates the slope percentage.



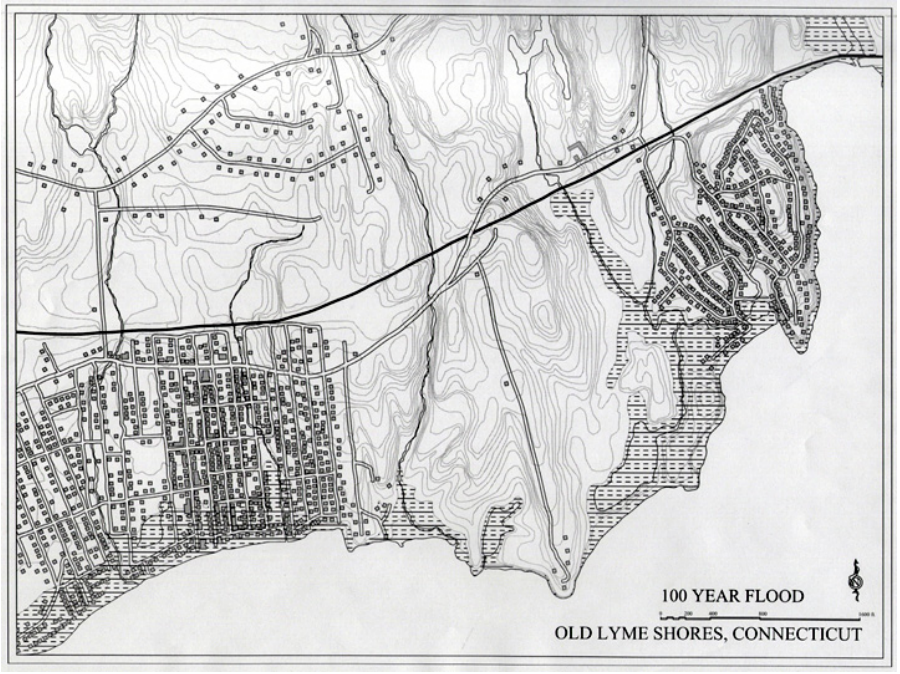
2.3.2.8
Topography. This is an enlarged topographical analysis of the site. The darkest green areas are 0-5 feet above sea level, indicating the 100-year flood plain. Flooding rarely occurs in this area and is a result of heavy precipitation or violent Atlantic storms. The changes from green, to yellow, to orange, to red indicate changes in elevation.



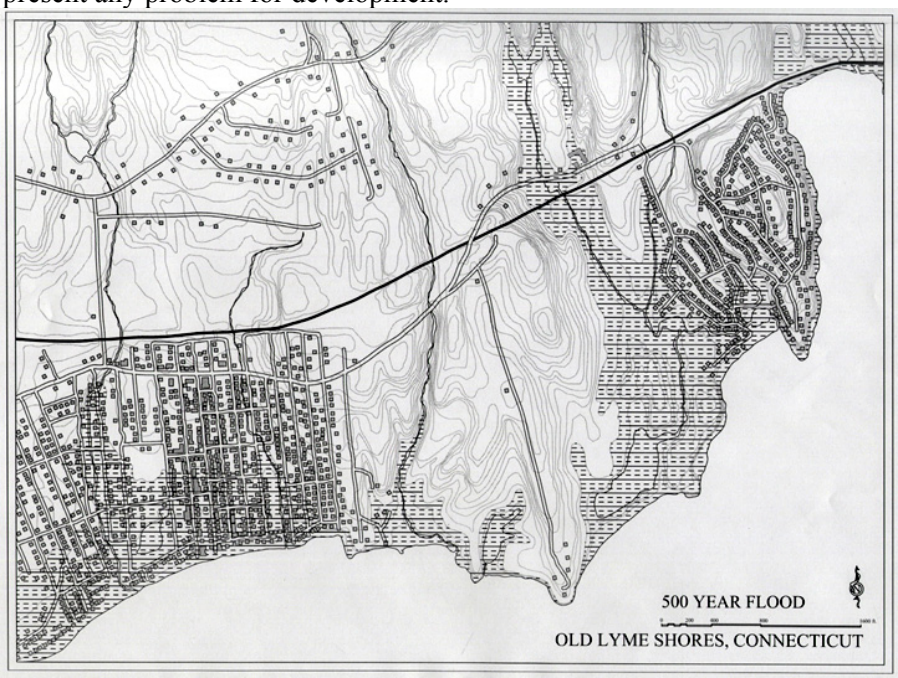
2.3.2.9
Salt Marshes. This map shows the salt marshes around the site. The largest salt marshes are along Threemile River to the east of the site. This is the area of the nature preserve. This land can not be developed.



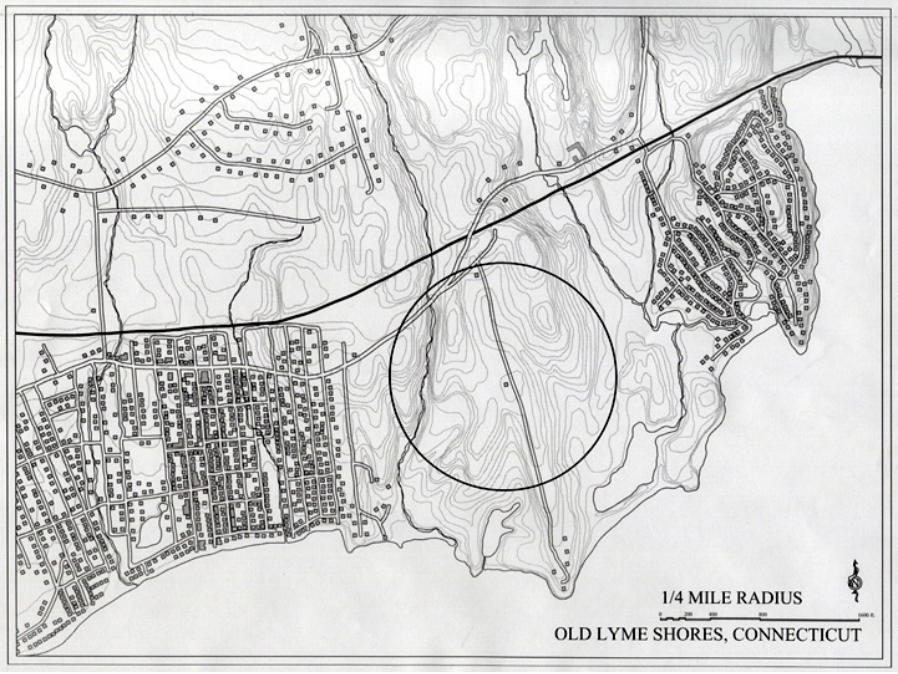
2.3.2.10
Beach and Rocky Outrcoppings. This map shows the varied coastline condition at the site. Natural beaches exist along much of the shore, interrupted by a few rocky outcroppings that project into Long Island Sound. The most prominent outcropping is Hatchett Point.



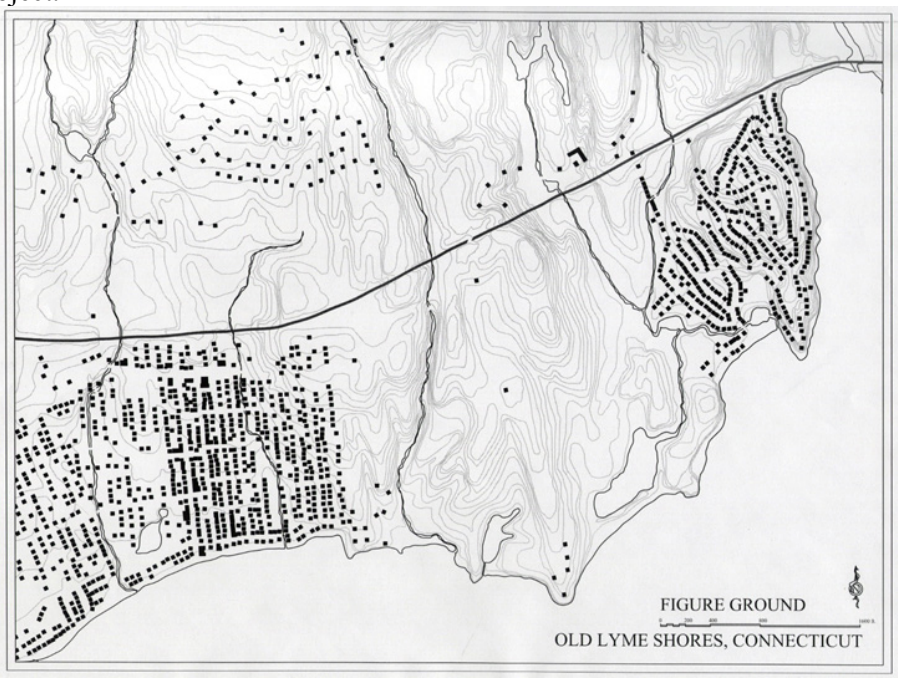
2.3.2.11
100-Year Flood Plain. The salt marshes and the ponds on the site lie in the 100-year flood plain as does one-quarter of the towns of Old Lyme Shores and Soundview. The flood plane does not present any problem for development.



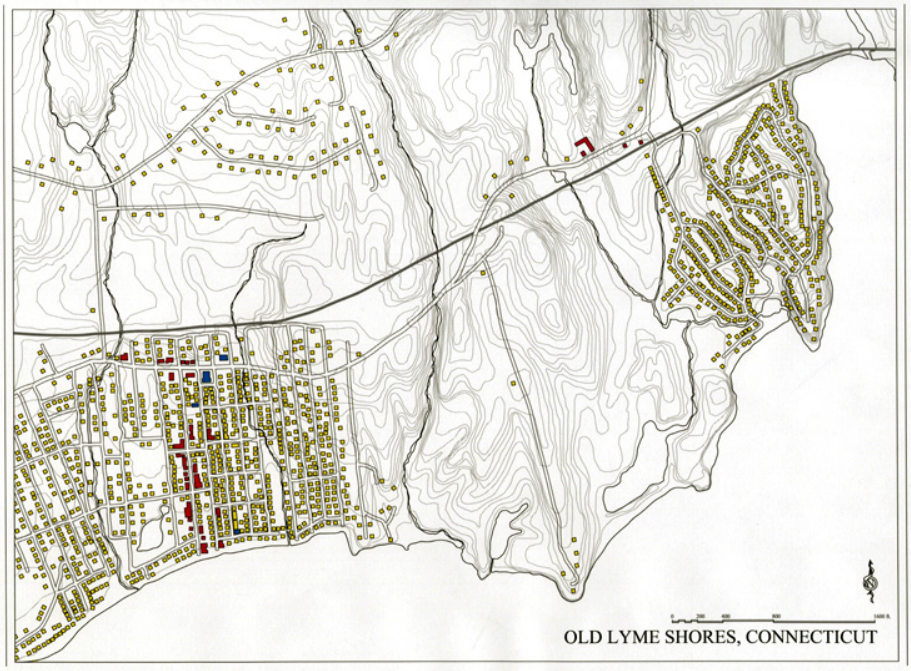
2.3.2.12
500-Year Flood Plain. The 500-year flood plane climbs to approximately 12 feet above sea level. One-half of Old Lyme Shores and Soundview as well as a portion of Point O'Woods have been built in this flood plane.



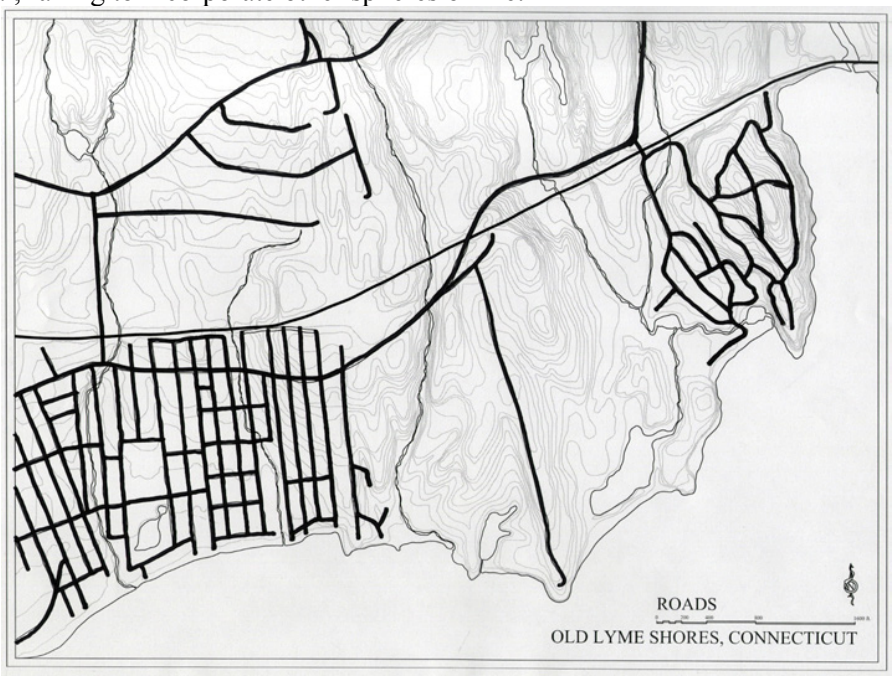
2.3.2.13
Quarter-mile Radius. From the center of the site boundaries, a quarter-mile circle, or five-minute walk, extends to Shore Road and almost reaches both ponds. A quarter-mile radius is a useful scale relationship to understand relative to the type of community intended in this thesis project.



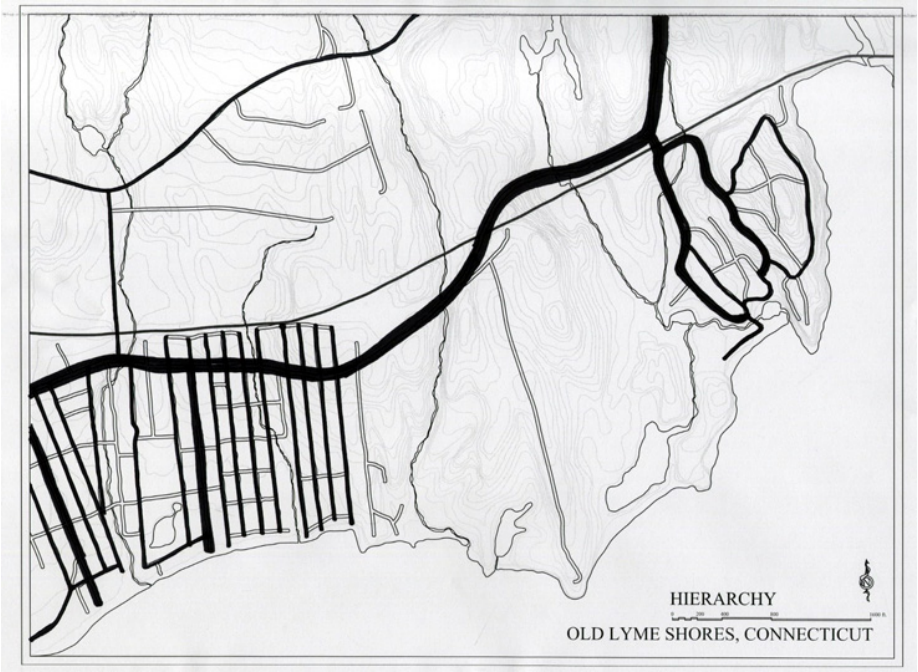
2.3.2.14
Figure Ground. The figure ground shows the clarity of the urban condition of Point O'Woods and especially Old Lyme Shores. Street and block patterns can be recognized from these figure grounds. However, in the northern suburb, the figure ground shows the lack of any positive urban condition. That kind of planning relies too much on the road as the only organizing device.



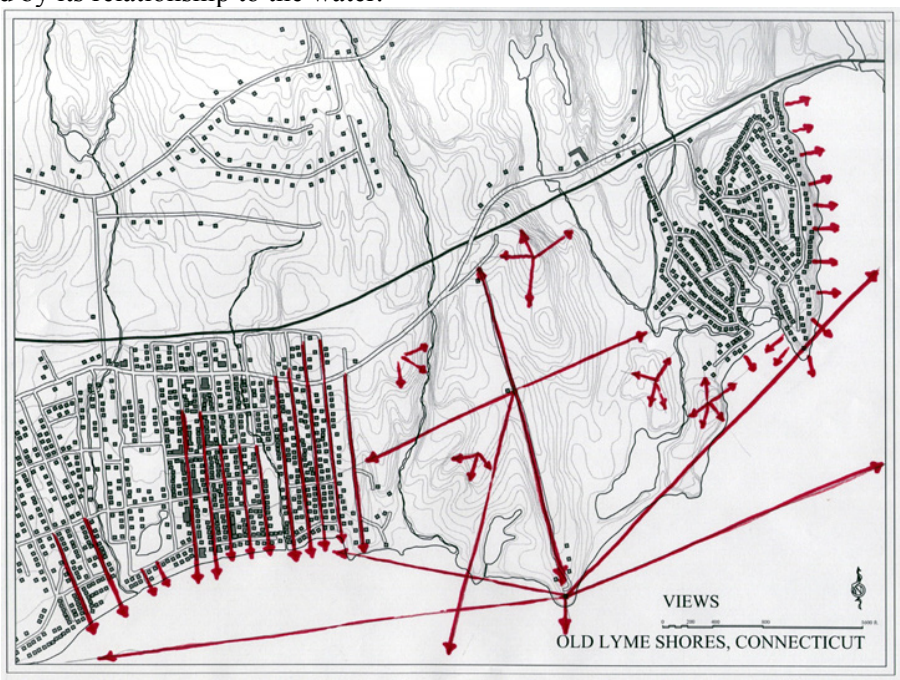
2.3.2.15
Land-Use. The communities of Old Lyme Shores and Soundview reflect positive land-use development and patterns. Commercial (red), civic (blue), and residential (yellow) types are all essential components of the community. In Point O'Woods, the community is mono-functional, failing to incorporate other spheres of life.



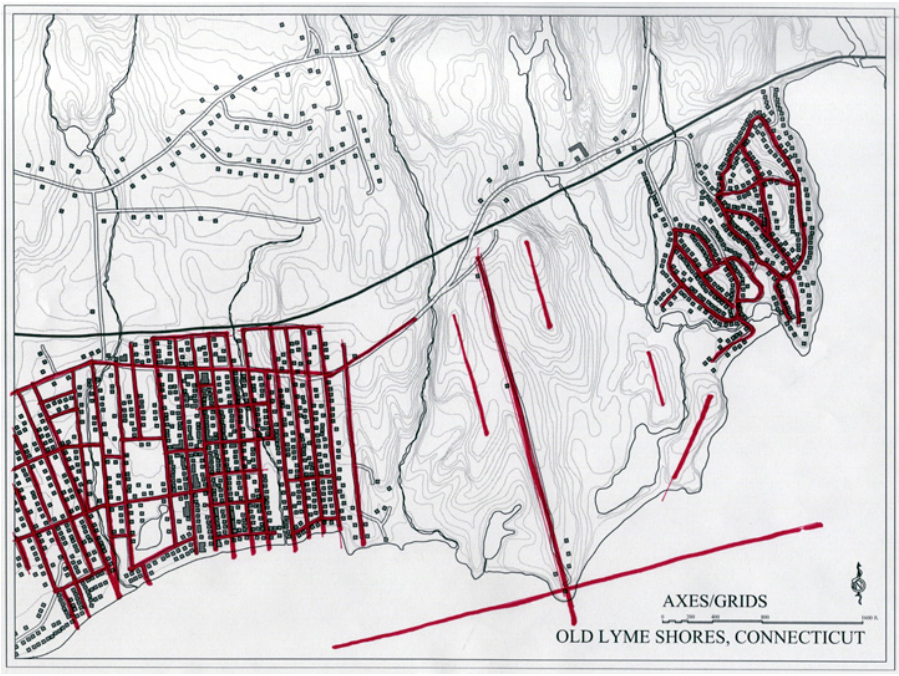
2.3.2.16
Roads and Streets. This diagram shows the street grids and patterns of the surrounding communities. Old Lyme Shores has a clear and identifiable street grid. The street pattern of Point O'Woods, generated by the topography, is less clear. The street pattern of the northern suburb shows the arterial and cul-de-sac ideology of contemporary planning.



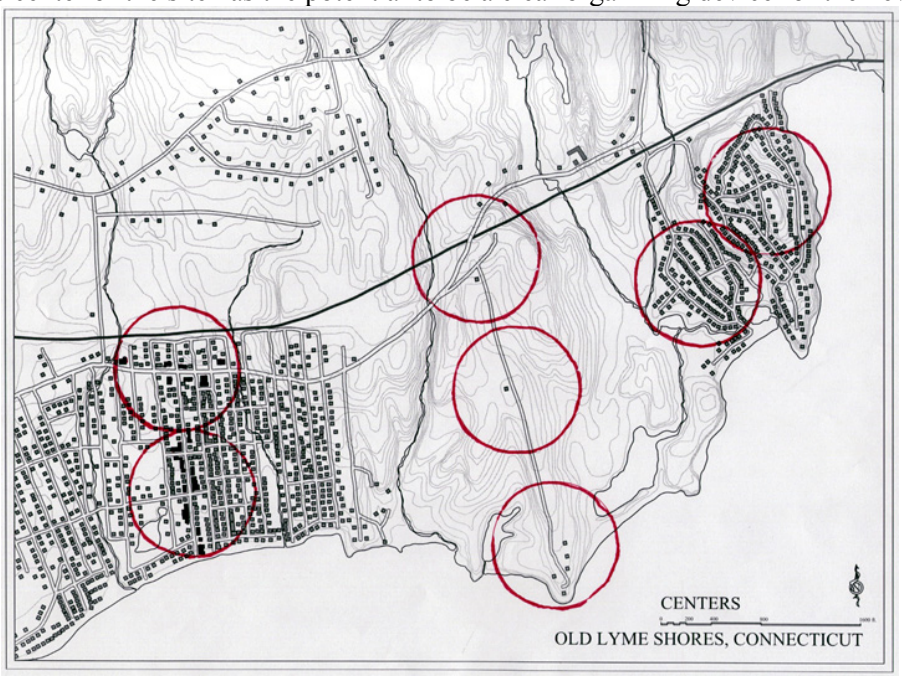
2.3.2.17
Hierarchy of Roads and Streets. Shore Road serves as the major access road to these communities. Secondary roads are then generated off of Shore Road. Point O'Woods only has one access point to the entire community. Old Lyme Shores has multiple means of access into the community and down to the water. The grid of Old Lyme Shores was obviously generated by its relationship to the water.



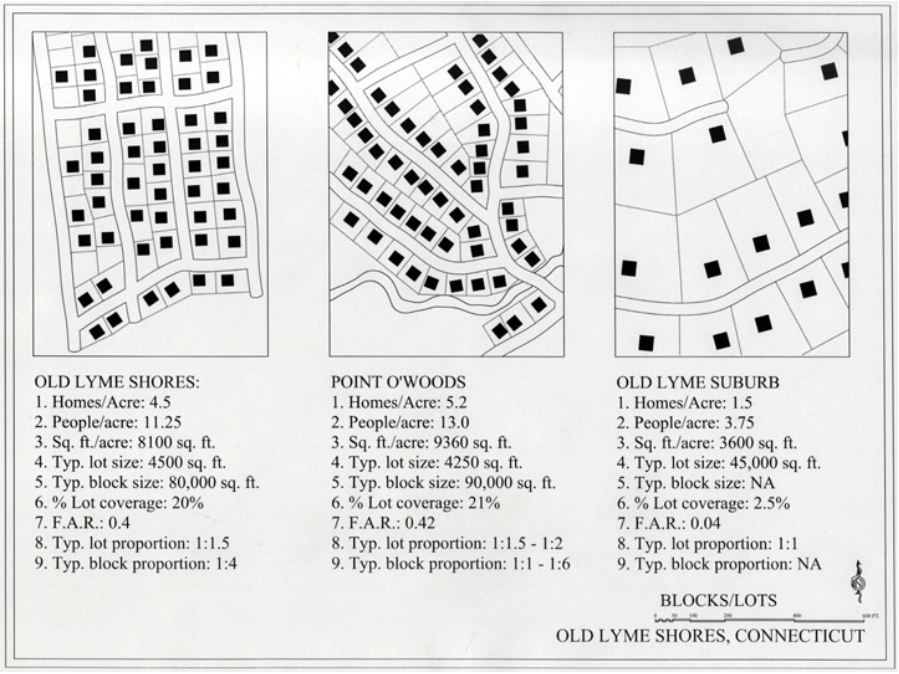
2.3.2.18
Views. This diagram highlights views in the existing communities as well as potential views on the site. In Old Lyme Shores, views from a half-mile inland are available down each street. In Point O'Woods, views are only offered to those who live at the edge. The site topography offers many view opportunities.



2.3.2.19
Axes and Grids. A clear and distinct set of axes and grids organizes Old Lyme Shores making it a community that is easy to understand while capturing the value of its waterside context. Point O'Woods warped grid system is generated by the topography. The ridge line down the center of the site has the potential to be a clear organizing device for the new town.

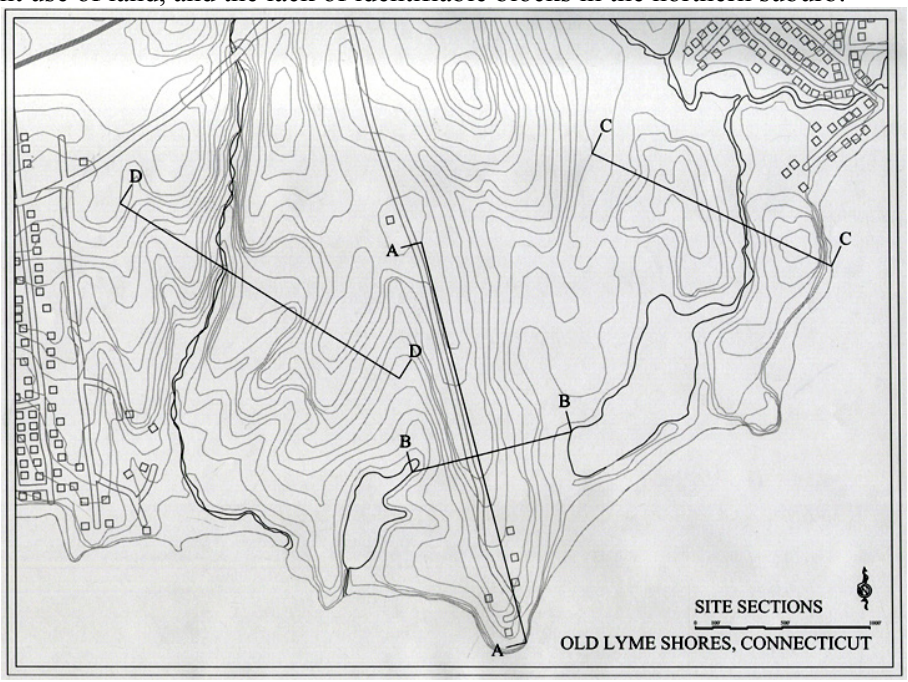


2.3.2.20
Centers. Two centers exist in Old Lyme Shores that act as both physical and symbolic centers: one at the intersection of Shore Road and Soundview's main street where commercial and civic buildings are placed; the other closer to the water on Soundview's main street where commercial and waterside activities are located. The site has three potential centers: one at Shore Road, one at the top of the ridge line, and one at Hatchett Point.



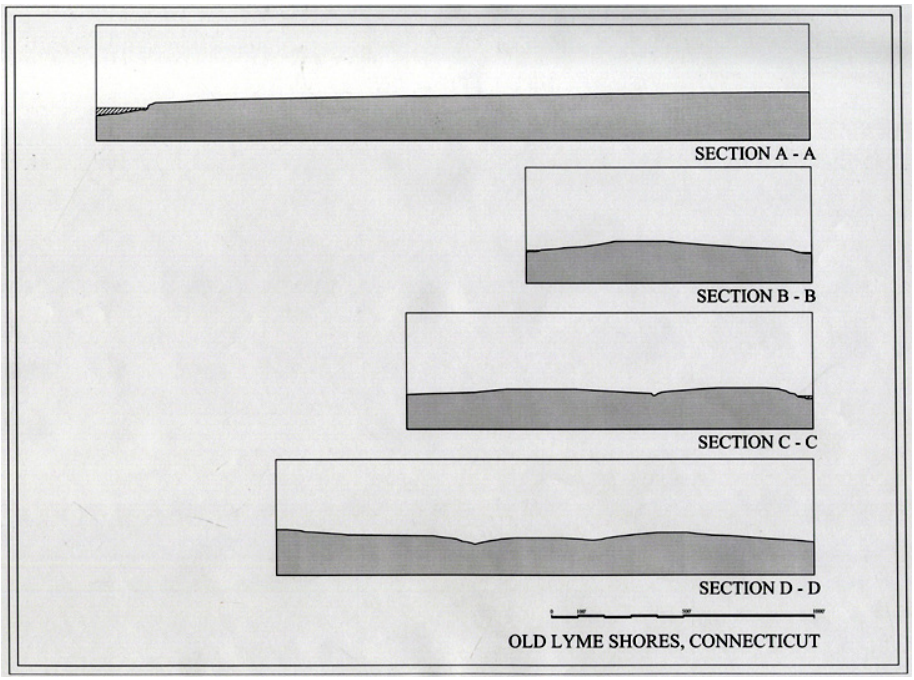
2.3.2.21

Block and Lot Analysis. This image is an analysis of block and lot characteristics of the communities surrounding the site: Old Lyme Shores, Point O'Woods, and the northern suburb. The differences between the three are clear –the radical drop in density, the inefficient use of land, and the lack of identifiable blocks in the northern suburb.

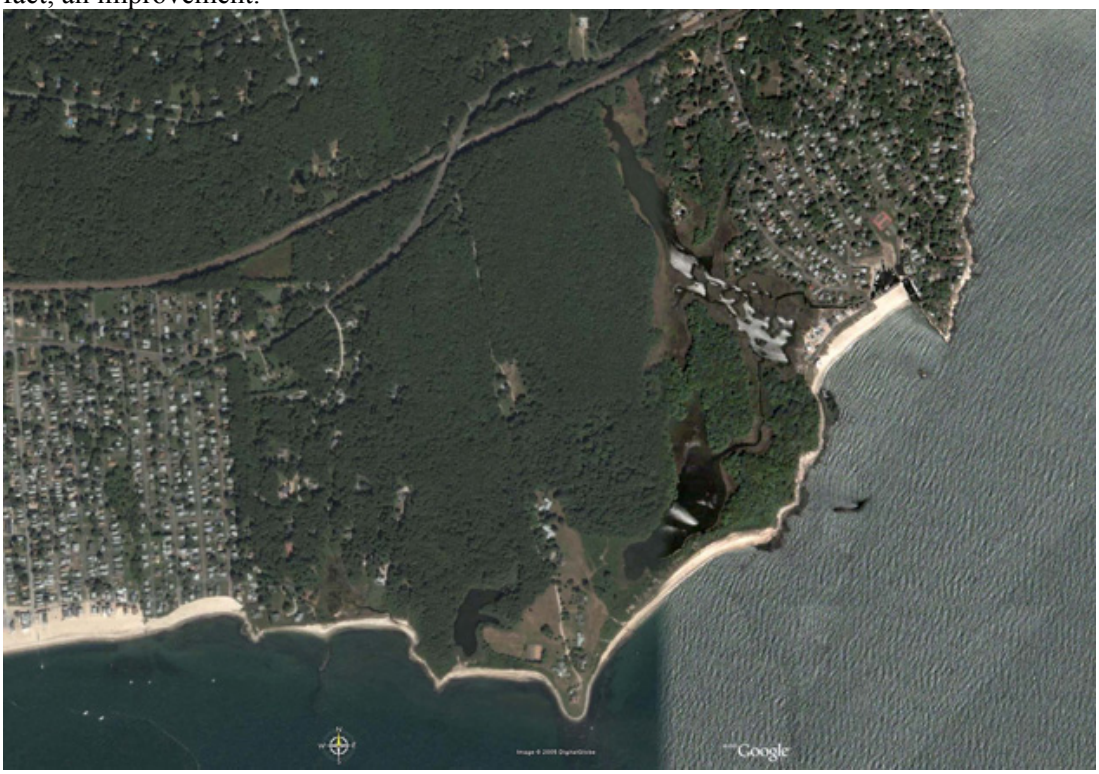


2.3.2.22

Key for Site Sections. Four site sections were taken of the site. Refer to Figure 2.3.2.23.



2.3.2.23
Site Sections. These sections show the gentle rolling conditions of the site. Some of the topography is too dramatic to build on, but most of the site can accomodate up to five units per acre under current code (on a 0-4.9% slope). However, one of the intentions of this thesis is to demonstrate that a higher number of units per acre on a 0-10% slope is possible, and in fact, an improvement.



2.3.2.24
Aerial Photo.

CHAPTER 3: PRECEDENT ANALYSIS

3.1 – Precedents:

The precedent analysis includes relevant examples of projects and places that offer meaningful formal, cultural, functional, and typological guidance to assist in design exploration and comprehension.

The precedents are categorized into two types: historical precedents of colonial towns in Connecticut; and examples of urban designs that have characteristics relevant to the goals of this thesis. It is important to note that only two of these precedents are from the 20th century. All other precedents are from the 19th century or earlier. The two precedents from the 20th century were chosen specifically because they make a conscious effort to return to traditional town planning principles. It is my contention that these traditional precedents are more than sufficient for gaining the necessary knowledge base required to design a comprehensive community today. With thoughtful consideration and careful design choice, the principles of these traditional examples can be maintained while adapting to contemporary demands. I do not believe the planning methods and ideologies of the 20th century are sufficient nor are they in any way more adequate than those of previous centuries.

Each of these precedents is of the Traditional City Type. The Traditional City type is defined by the principles, paradigms, rules, and conventions embodied within each of these specific models. The principles shared by these precedents include: streets and squares that are imageable and identifiable; districts and neighborhoods that are walkable, finite, and particular; space design that is focused and purposeful;

clear hierarchy of streets, squares, and architectural types; and urban edges with clear distinctions between city and country.

These traditional cities and urban plans have identifiable and common development patterns, practices, and town and district types. The size of towns, districts, and lots are scaled to the person and the function, not the automobile. The density of cities and neighborhoods are manageable, achieving a balance of size, population, and natural and urban landscapes. Street types, block types, and building types are of similar scale, character, and function. The growth of the traditional city is planned and carried out by extension or multiplication, not by accumulation. Dimensions of urban spaces, streets, and buildings are similar in each example and critical to the overall character of the entire city. These traditional examples celebrate edge and city center conditions. They have identifiable commonalities, both architectural and urban, that relate to the specific culture and the general type.

3.1.1 – Historical Precedents of Connecticut:

The historical precedents of Connecticut are examples of colonial town planning from the 17th and 18th centuries. The reasons for choosing these examples are two fold. First, these colonial towns offer insights into cultural, historical, and traditional town planning methods, paradigms, and ideologies that I believe should be preserved and continued in architecture and urban design today. They are time-tested successes that can and should be the tools and resources utilized by designers. Second, these towns are examples of coastal and inland planning unique to Connecticut. It is vital to understand the evolution of town planning and architecture

of the state and region to create a new town that participates in a dialogue with existing models.

New Haven, Hartford, Wethersfield, Saybrook, and Essex were chosen as precedents. These are all early colonial towns. They illustrate a range of planning principles and can be categorized into three types of cities: grid, nuclear or radial, and linear.

New Haven employs a nine-square grid of substantial size. It has been proclaimed as a rational, classical design in the New World. Hartford is a nuclear city with a town center surrounded by lots and houses.[14] Roads converge at the town center and extend into the farmland. Wethersfield is a linear city with one major road that extends from the Connecticut River, through the town center, to the public green. Saybrook is another grid city of similar size to New Haven, yet less refined. Essex is a linear city on a peninsula jutting out into the Connecticut River with two main streets extending from the town square to two harbors.

Saybrook was to a large extent a military position. The English occupied the site and controlled the mouth of the Connecticut River. Most of the development was oriented toward that end, hence the fort at the tip of the peninsula. The remaining lots were used as farmland. Because of its age and use, the colonial town of Saybrook did not see the mature development of the other four precedents. However, Saybrook is the town from which Essex and Old Lyme originated. Its comprehensive grid layout, site selection, lot use, and context treatment are worth noting.

[14] This colonial town plan can no longer be recognized today because of the destruction of the old city fabric during post-World War II urban renewal.

The other four towns all share common characteristics typical of colonial towns not only of Connecticut but also of all New England. They all have a town center where the church and/or the town hall are located.[15] The town green is a unique urban type only found in New England. The church is often sited at one end of the green with houses lining the edges. All the major roads of these towns lead to the center of the city. Minor roads lead out to farmland or other houses. The arrangement of the buildings on the lots is also characteristic. The houses edge the front of the lot, creating an imageable street and urban wall. The backyards are used for farming and grazing. These urban characteristics reflect the New England town type.

Graphic precedent analyses are in the gallery of plates (Plates 33 - 40) at the end of this chapter. The captions provide the necessary explanation for each image and offer further insight into each precedent.

Multiple images of Essex (Plates 41 - 47) are also included. Essex is a premium example of a small-scale, successful, waterside community serving as a model for this thesis project. Its value is architectural, functional, and typological. The town is active year round, it accommodates the summer season, it offers the opportunity to live and work in the same place, it is scaled to the pedestrian, the original town plan has been minimally altered and it is still successful, and it maintains the traditions, both architectural and urban, of New England. The photos illustrate the sought after urban and architectural conditions of this thesis project and demonstrate how towns of the traditional type are still successful today without the need for extensive alterations or modifications.

[15] The church and the town hall of colonial New England were often the same building.

3.1.2 – Ideological Precedents:

The ideological precedents are examples of town and urban planning that offer specific insights I desired to explore in this thesis project. They were chosen because each contains a unique set of paradigms for study. These paradigms are applied in the design of the new town in some form that fits the project conditions.

The principles of these precedents are also of the same nature as the historical precedents. They offer insight into cultural, historical, and traditional town planning methods that should be preserved and continued today – time-tested successful examples that should guide future development. They are of the Traditional City Type, maintain the idea of the city, and access the typological continuum of urban planning and architecture.

Bath, England; Edinburgh, Scotland; Commonwealth Avenue and Beacon Hill in Boston; Bern, Switzerland; Seaside, Florida; and Atlantis by Leon Krier were chosen as ideological precedents. Atlantis and Seaside are the only two 20th-century precedents because the architects of the project have made the conscious effort to use the paradigms of the traditional city. The other examples are from the 18th and 19th centuries, Bern being a 14th century example.

Commonwealth Avenue and Beacon Hill are not towns, rather they are neighborhoods. However their design principles, scale, density, dimension, function, land-use, and time frame for development coincide with new town planning of the period. They are in fact towns within cities (This speaks volumes about the ideology of traditional town planning in cities.)

These districts were chosen because the offer insight into large scale New England city planning. The also represent different planning strategies relative to site condition; Beacon Hill sited on the three hills of Boston, Commonwealth Avenue over the filled Back Bay. Boston was the model city for New England, the symbol of prosperity, and the hub of the New World in the 18th and 19th centuries.

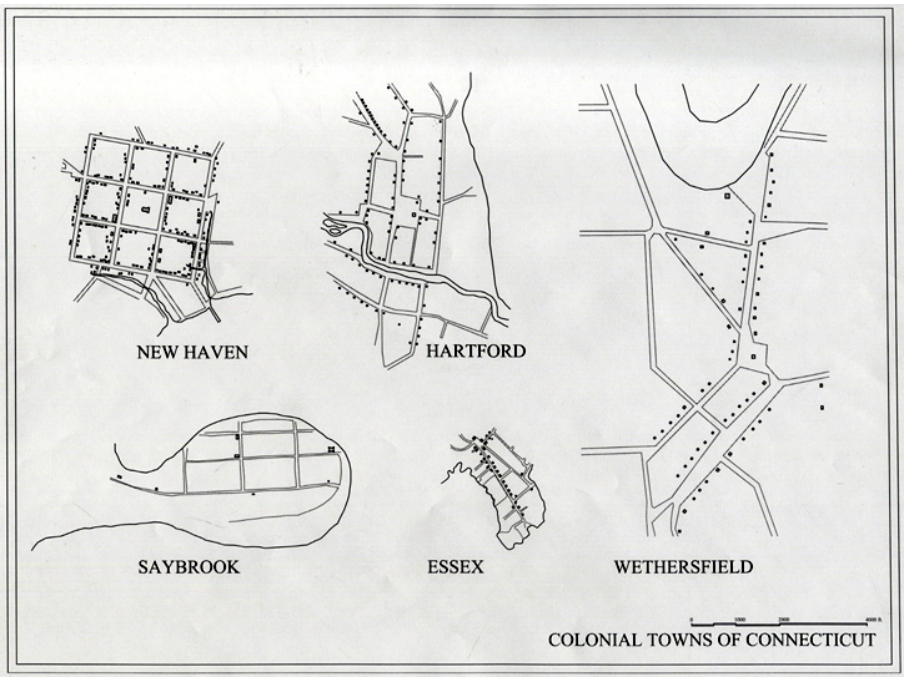
Bath was chosen for three reasons. First, Bath was planned as a leisure town. This demonstrates that great cities can spring from a recreational reason-for-being with careful planning. Second, it offers examples of Renaissance space making at its best with Queen's Square, the Circus, and the Crescent. Third, one of the major design intentions of Bath was to create an intense urban condition juxtaposed with a beautiful natural landscape.

Edinburgh was chosen because it offers two completely different planning strategies for similar site conditions adjacent to each other. The Royal Mile and Craig's New Town were both built on ridgelines. They are both the same city type: linear. Both Medieval and Renaissance planning strategies are clearly expressed, yet both come together harmoniously to create a beautiful city. Edinburgh and Commonwealth Avenue are paired together in the analytical diagrams because of their similarities. It is my belief that the design of Commonwealth Avenue is rooted in the design of Craig's New Town.

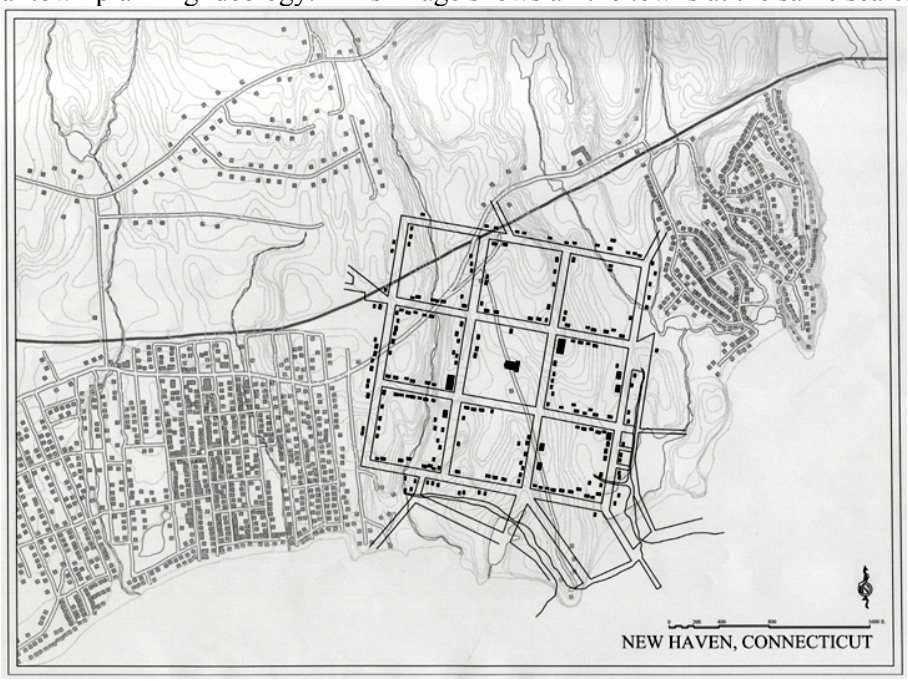
Bern was chosen for its size, site condition, foresight, and function. Bern was built on a ridgeline. The major street of the town was planned to be 100 feet wide to accommodate commercial activity – i.e. Bern's reason for being, demonstrating the planning foresight. The size of Bern also fits perfectly on the thesis site.

Seaside serves as a programmatic resource more than anything else, but it also demonstrates how traditional town planning is successful in the 21st century. Atlantis is the most theoretically significant precedent. The theories behind Atlantis are of the most value. However, Atlantis is built on a site where topography is very significant in the design thus making it a suitable formal precedent as well.

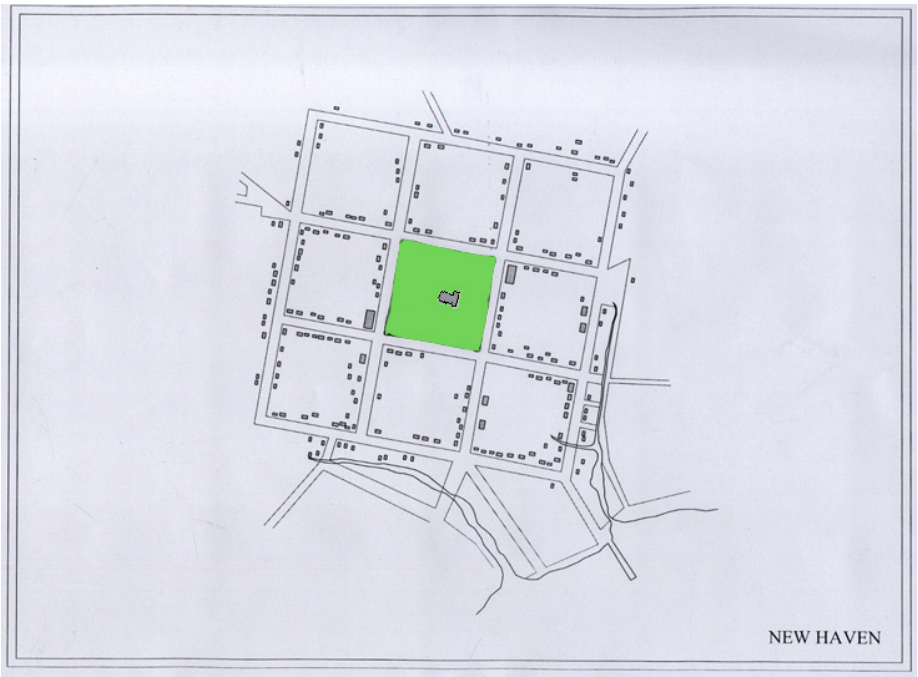
Both the town plans and the block patterns of all these precedents are significant. Graphics that analyze the unique conditions of each precedent, which are applicable to the thesis project, are in the gallery of plates (Plates 48 - 60) at the end of this chapter. The captions provide the necessary explanation for each image and offer further insight into each precedent.



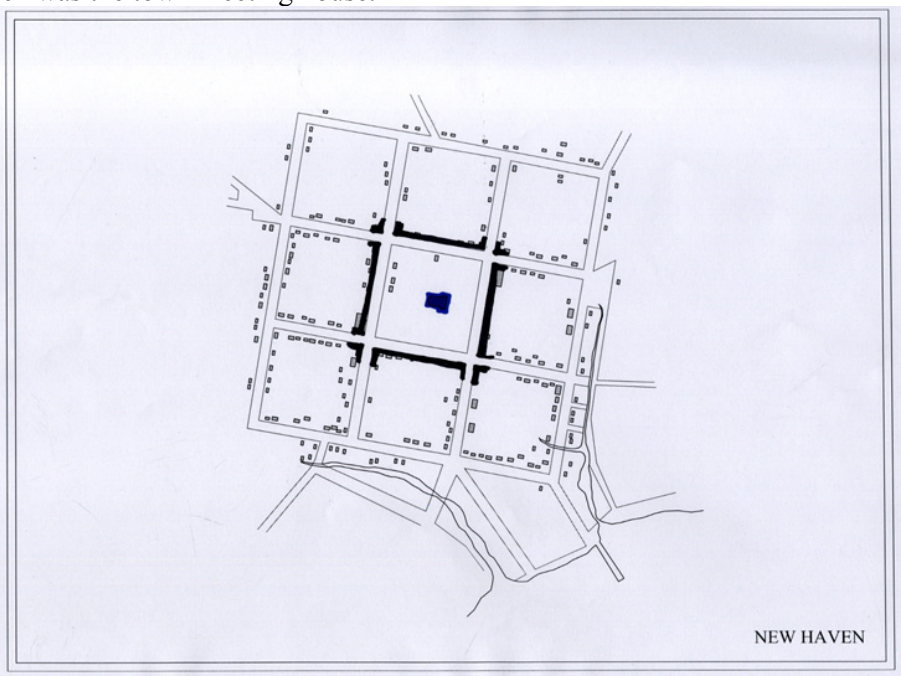
3.1.1.1
Colonial Towns of Connecticut. New Haven, Hartford, Wethersfield, Saybrook, and Essex offer paradigms and principles that are both unique to Connecticut as well as engage in traditional town planning ideology. This image shows all the towns at the same scale.



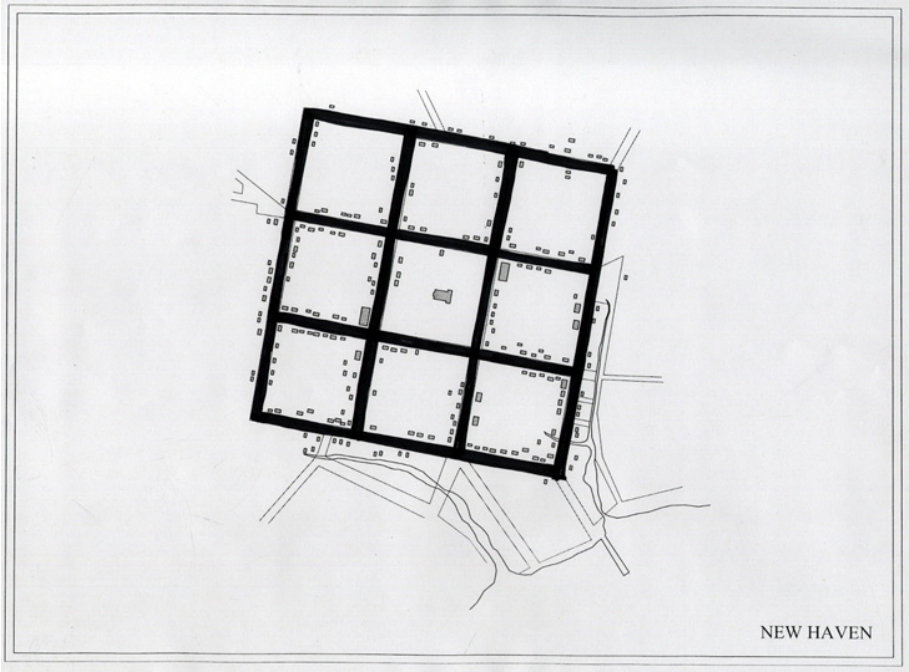
3.1.1.2
New Haven on Site. New Haven fits well within the boundaries of the site.



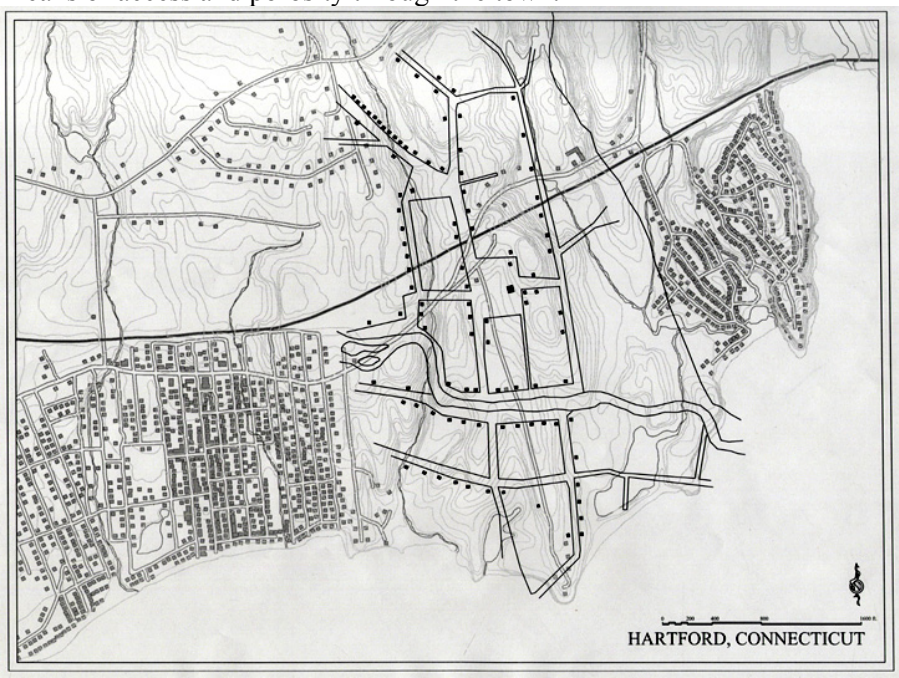
3.1.1.3
New Haven Analysis. New Haven was a unique Renaissance new town in colonial America. It was developed as a nine-square grid with the town green at the city center. Sited on the town green was the town meeting house.



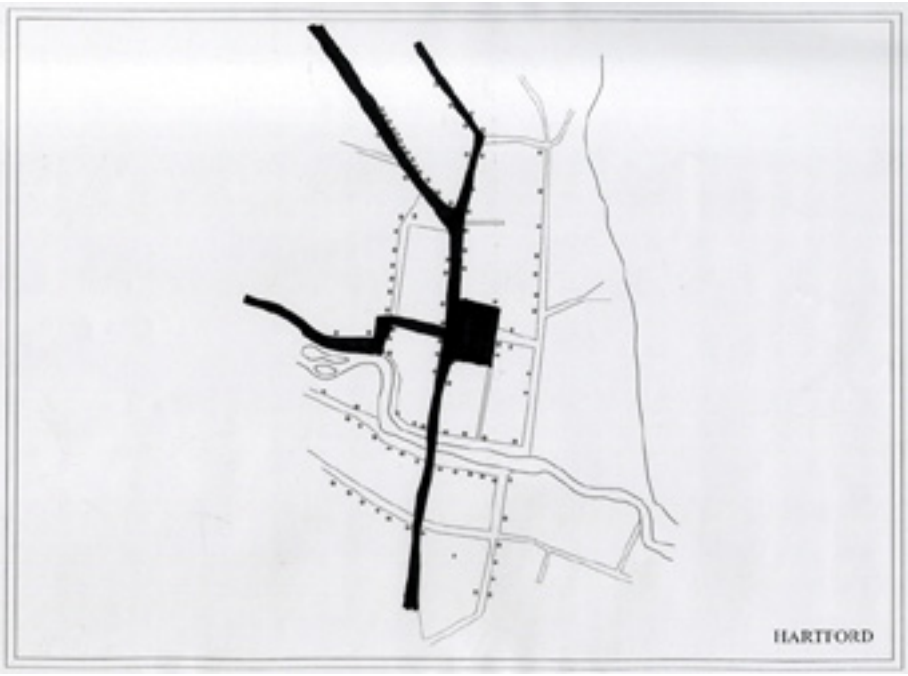
3.1.1.4
New Haven Analysis. The town green was the major public space coupled with the major civic and spiritual centers in both the physical and symbolic center of the city. The buildings around the green edge the street to define the space while the civic buildings are free standing in the green.



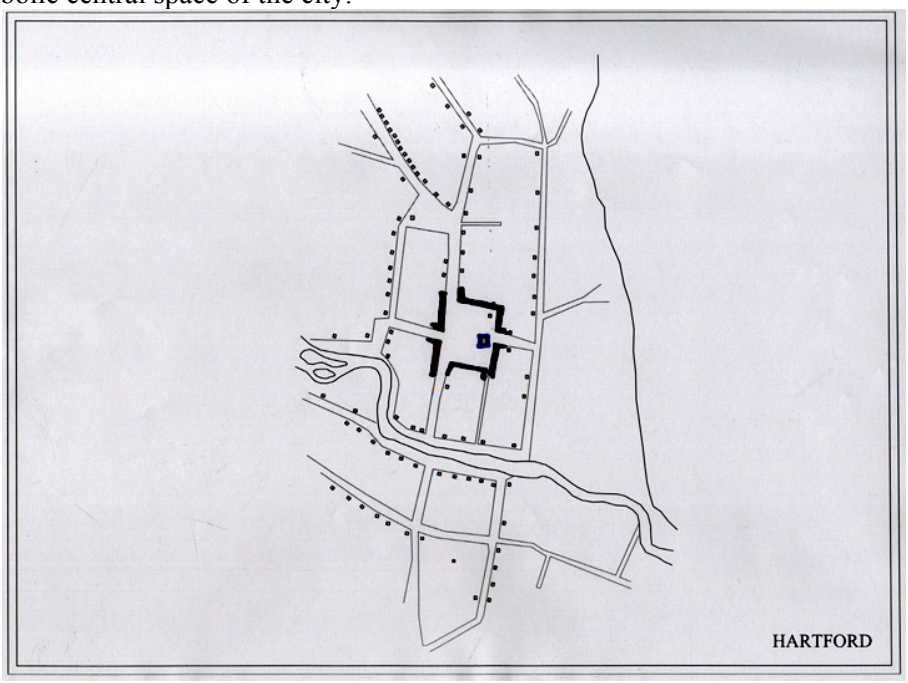
3.1.1.5
New Haven Analysis. The rigid nine-square grid was strong organizing device for the town. Proportion, scale, dimension, geometry, and regularity served as guides for the plan. The surrounding roads were absorbed at the edge of the nine-square. The grid allowed for multiple means of access and porosity through the town.



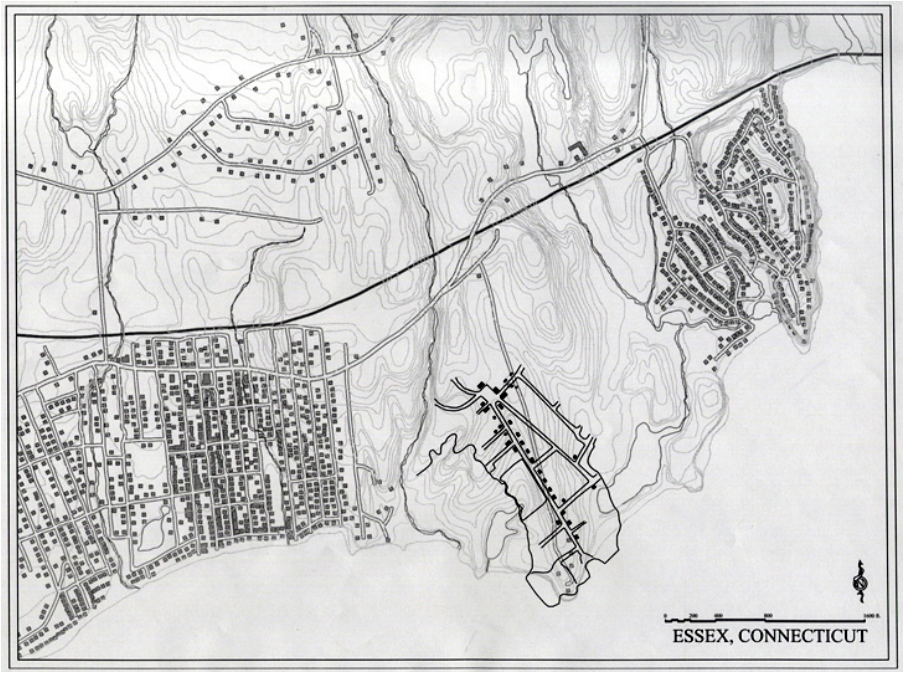
3.1.1.6
Hartford on Site.



3.1.1.7
Hartford Analysis. Major roads radiated out from the city center. The green was the physical and symbolic central space of the city.

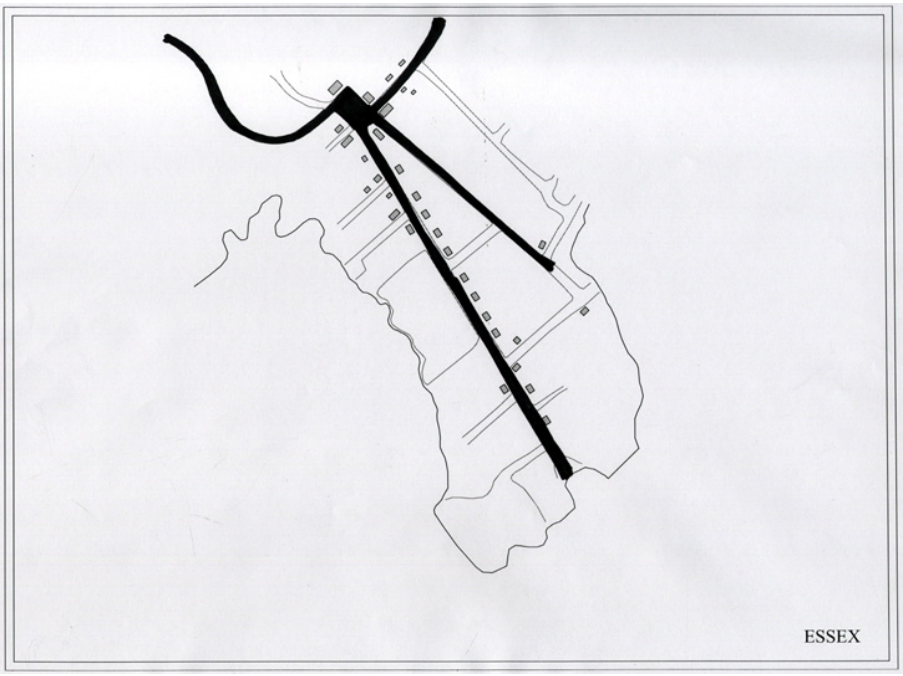


3.1.1.8
Hartford Analysis. The houses at the center of town lined the edge of the green to define the space. Within the space stood the meetinghouse, the major civic building of the community.



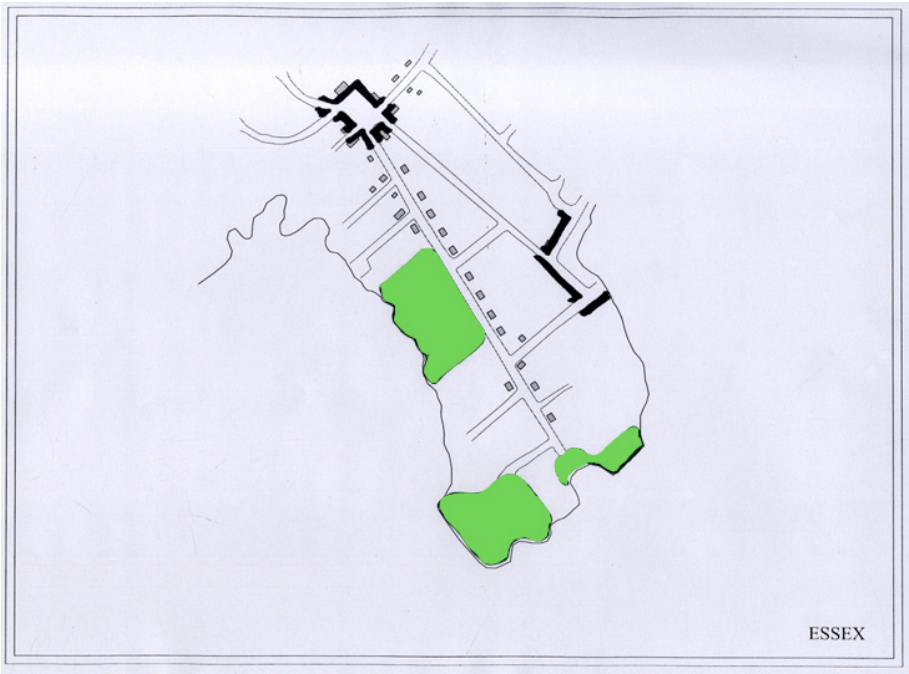
3.1.1.9

Essex on Site. Essex is an ideal model for this thesis proposal. The scale of Essex corresponds to the available land on the site. The two major streets in Essex run down a ridge line, similar to the thesis site conditions. Also, the main space is inland, at a higher point, and sponsors the two streets down to the water.

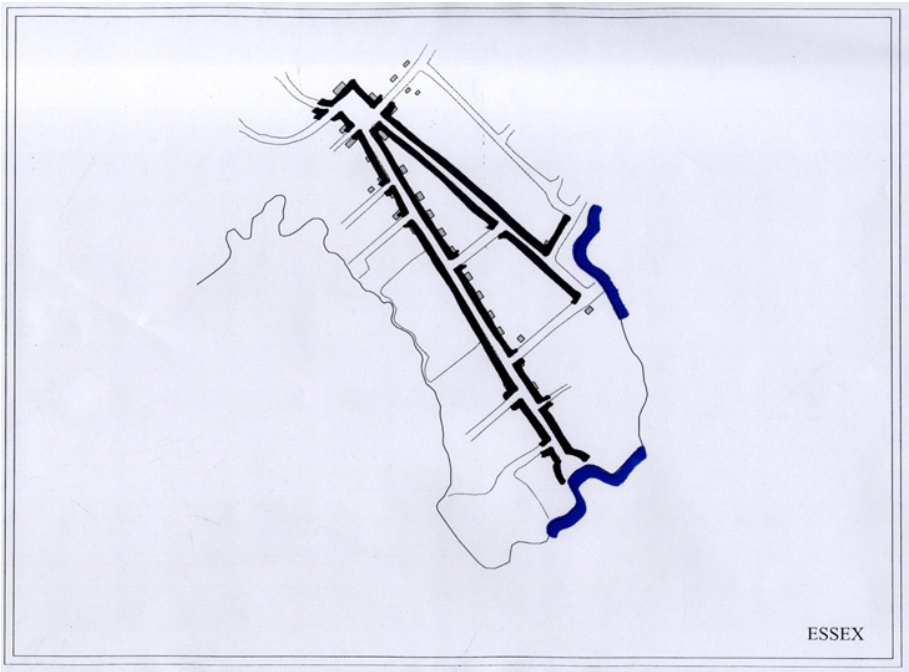


3.1.1.10

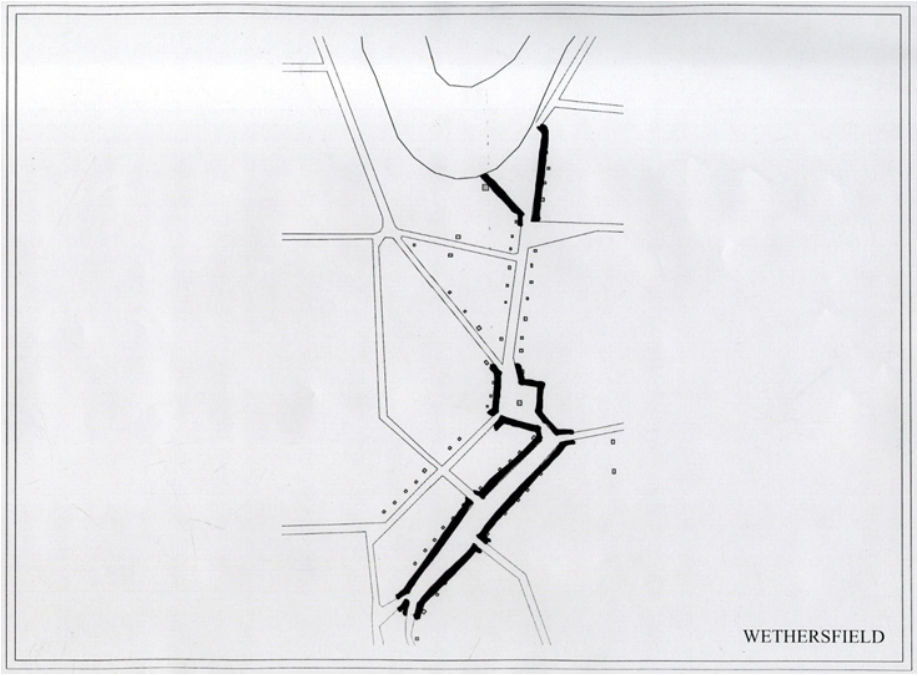
Essex Analysis. The major roads to Essex come into the main square. Two roads from the main square run down the peninsula to two dock areas.



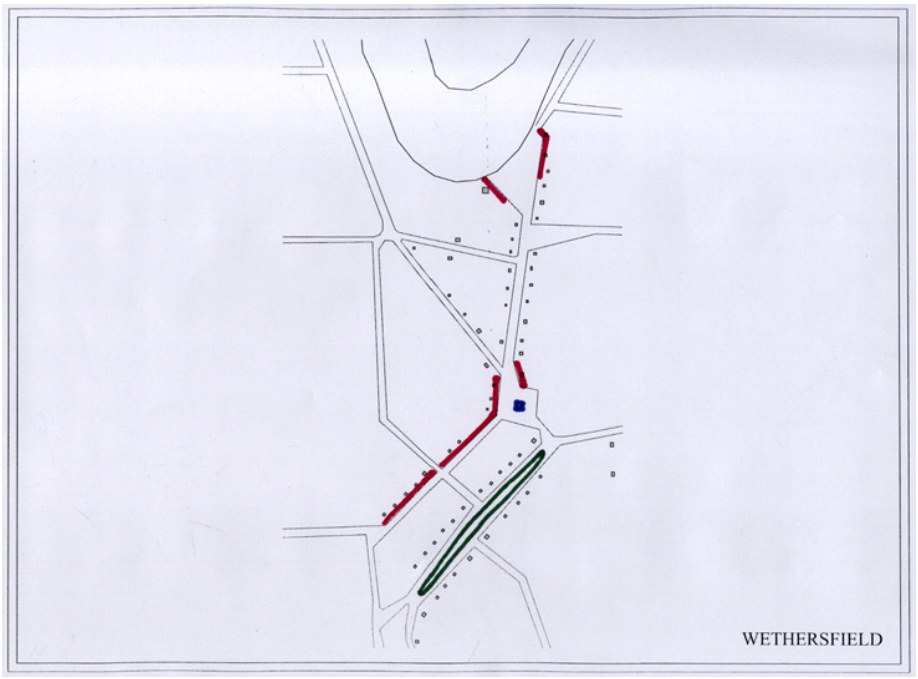
3.1.1.11
Essex Analysis. Multiple public spaces were designed on the small peninsula. The main square serves as the commercial center, the two dock areas served the industry of the time, and the town green was located off the main street, connecting the street and the Connecticut River.



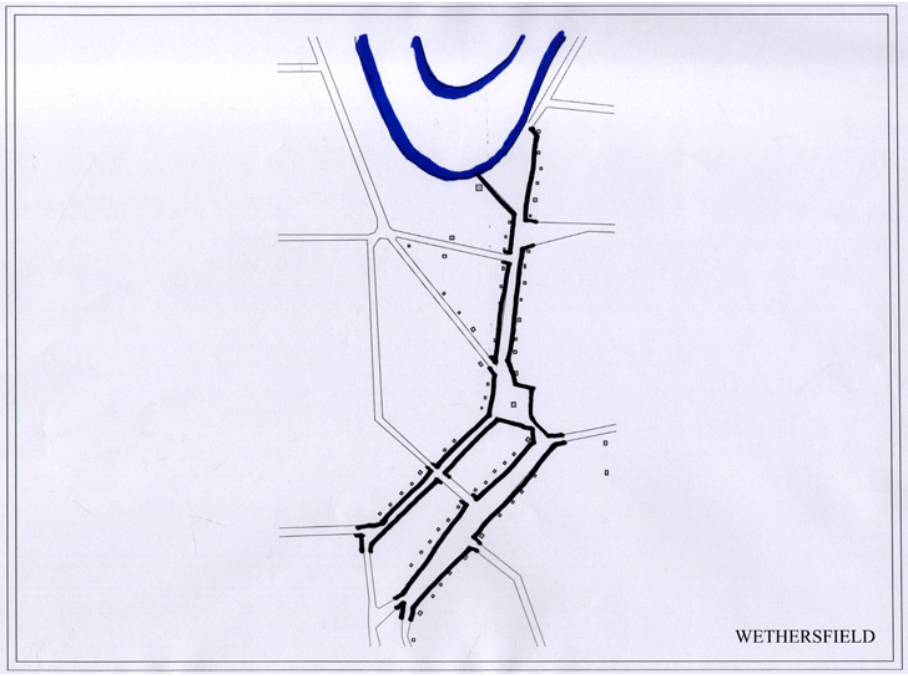
3.1.1.12
Essex Analysis. Buildings lined the two major streets to create an imageable path down to the water. The streets were generated by the relationship of the peninsula and the water.



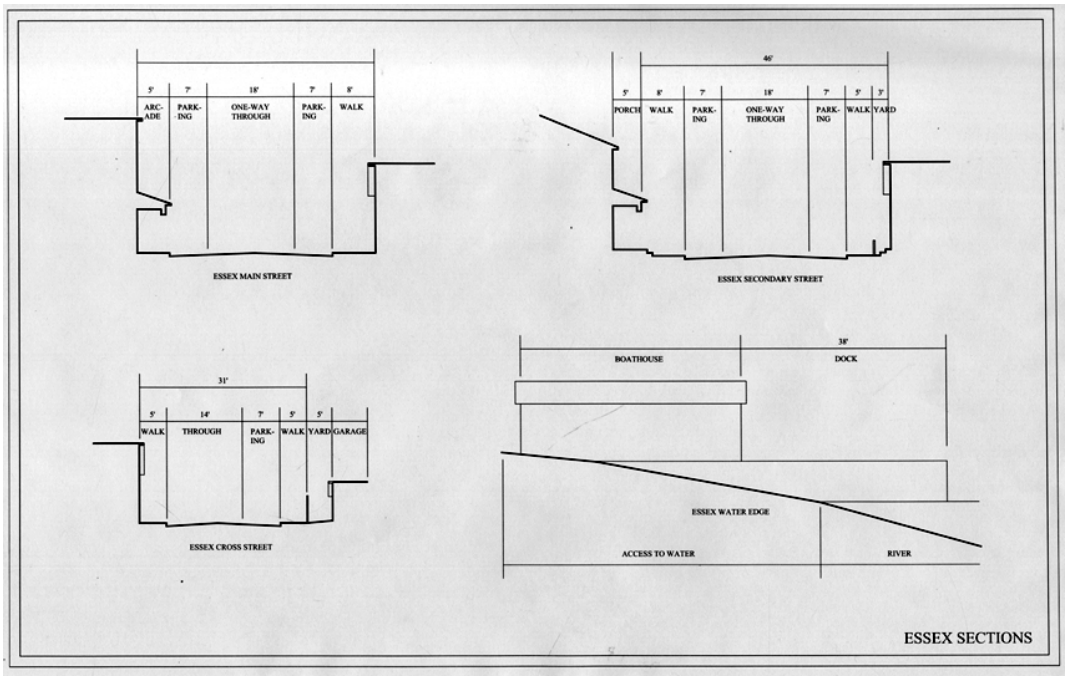
3.1.1.13
Wethersfield Analysis. Three major public spaces were planned in Wethersfield: the dock area, the town square, and the town green. Buildings edged these spaces to make the space imageable.

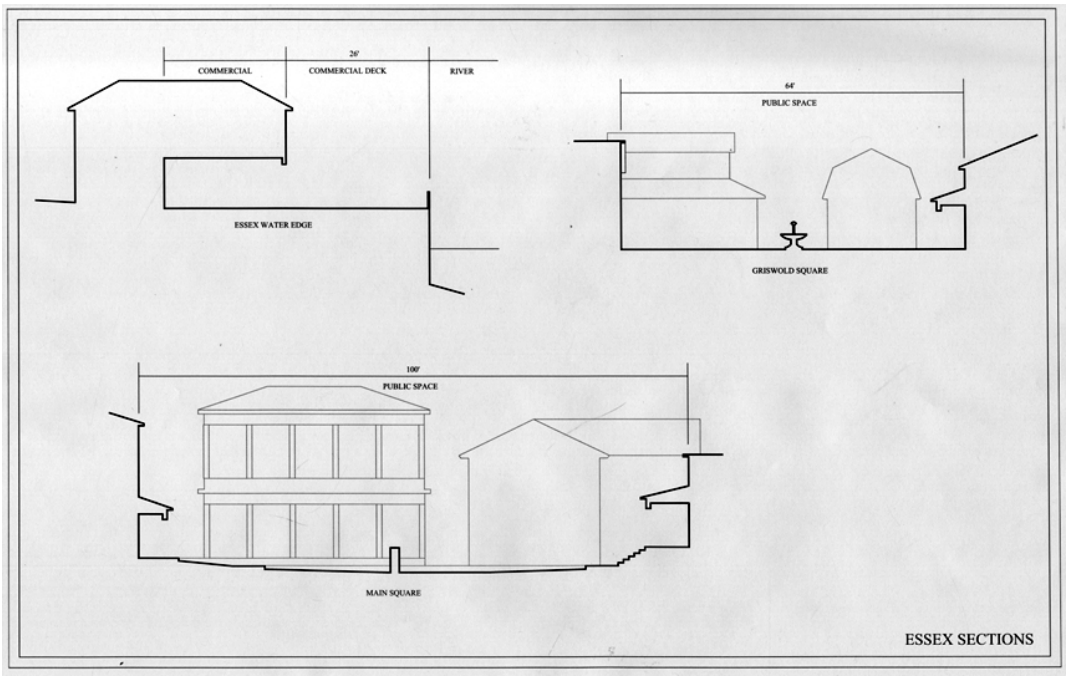


3.1.1.14
Wethersfield Analysis. Commercial frontages lined the dock area, the town square, and the secondary street radiating from the town square. Residential homes lined the town green. The town hall/church was located in the center of the town square.



3.1.1.15
Wethersfield Analysis. Wethersfield was a linear town, designed along a single road which connected the dock area, the town square, and the town green. Buildings edged this road to make an imageable and clear path from one space to another.





3.1.1.16 and 3.1.1.17

Essex Sections. These sections describe the scale, dimension, and character of the streets, spaces, and edge conditions in Essex. The scale of the entire town, both architecturally and urbanistically, create a unique New England colonial town feel. The scale also supports the pedestrian while accommodating today's needs. The streets are incredibly narrow, allowing for one-way traffic with parking on both sides. The squares are organized around the pedestrian while the automobile is the invited guest.

3.1.1.18
Essex Main Street. This image shows the small scale of Essex. The street accommodates one-way traffic, parking on both sides, and pedestrian sidewalks. The trees, green space, and parking create a buffer between the traffic and pedestrian. The throughway is considered pedestrian domain which accommodates the automobile.

3.1.1.19
Essex Colonnade. Colonnades and porches are common architectural features in Essex. The colonnades are typically designed with slender proportions. Again, the scale of this urban condition is worth noting.

3.1.1.20
Street in Essex. Tertiary streets in Essex are treated as large pedestrian throughways. There is no need for a curb to define the automobile realm from the pedestrian realm. This street accommodates two-way traffic for the houses down the street. This street intersects with Main Street yet does not require overly-large dimensions.

3.1.1.21
Water Edge in Essex. Access to the water edge is reinforced by the street and pedestrian path extending down to the water. Buildings face both the street and the water. The pedestrian path along the waterfront is continuous; uninterrupted by private or inaccessible land plots.

3.1.1.22
Water Edge in Essex. Access to the water is reinforced by the street actually running into the Connecticut River. Buildings also project out into the water as well as sit back away from the water. The buildings and docks are all public domain, allowing people to enjoy the amenity.

3.1.1.23
Street in Essex. Pratt Street, the street adjacent to Main Street, connects the town square (in the distance) to the water's edge. The street is lined with beautiful beach-house types that are single- and multi-family types. The houses are oriented on the front of the lot to reinforce the imageable path. Again, on-street parking, rather than lot parking, helps to create a suitable urban environment.

3.1.1.24
Sidewalk in Essex. This image shows the relationship of the street, green space, sidewalk, and fence-line. The scale of all these urban elements is small, but the uniformity, harmony, and repetition create a beautiful street condition. The houses are only set back slightly from the property line with a porch and side-yards rather than front yards.

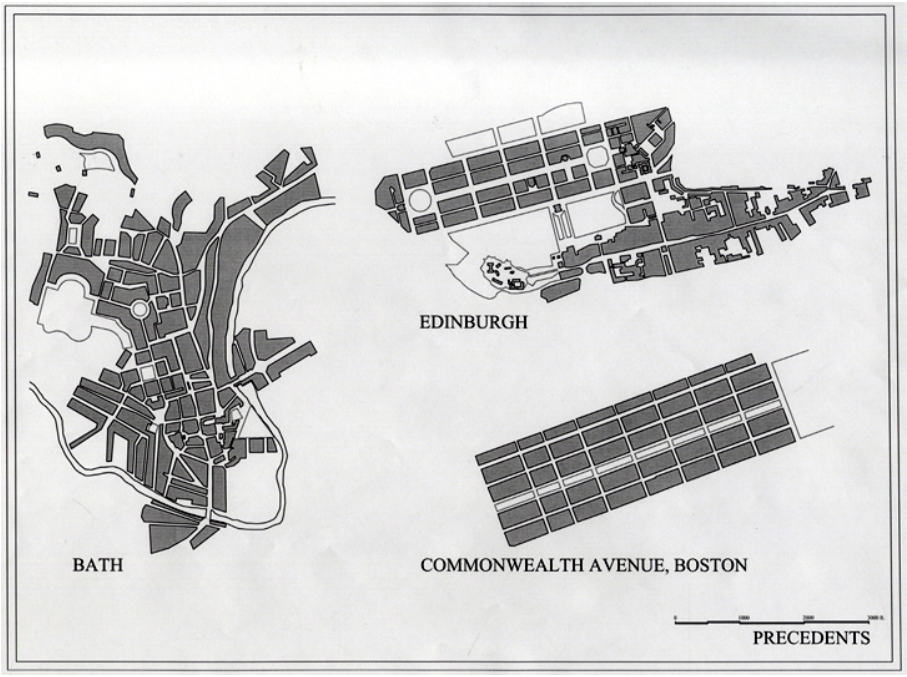
3.1.1.25
Church in Essex. The church is given the most important site in the city, atop the hill at the neck of the peninsula. The church overlooks the town square, Main Street, and the Connecticut River. The church serves as a symbol in the skyline, visible from within the city and from the river.

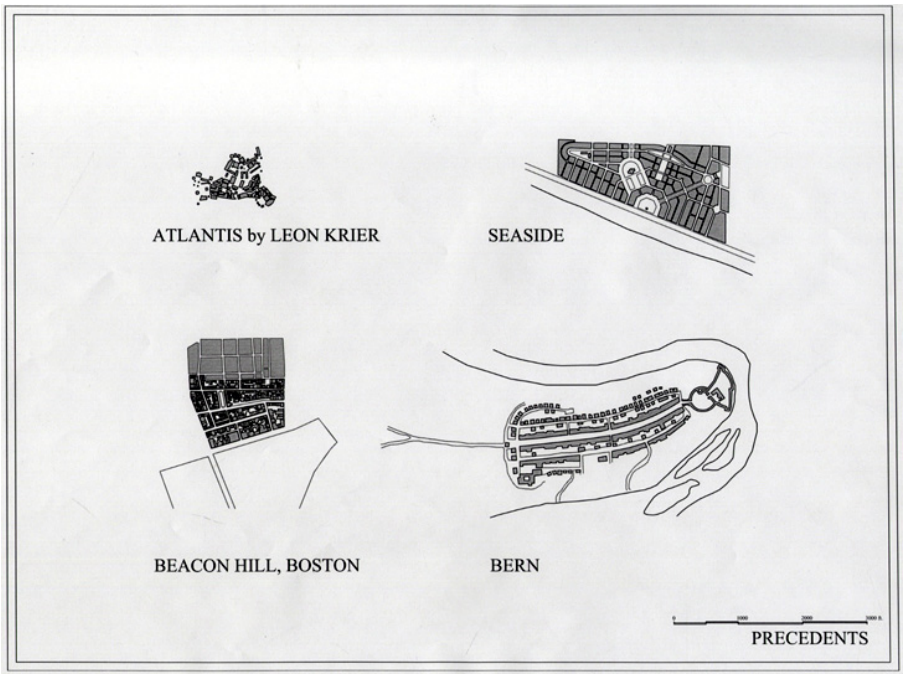
3.1.1.26
Main Street in Essex. The commercial types maintain a consistent building edge creating an imageable urban wall. Shops are entered on the ground level. The frontage of the shops does not exceed 24 linear feet. Width of the sidewalk is increased to make room for pedestrian traffic in front of shop windows. On-street parking is used to serve the commercial areas with private access in the rear.

3.1.1.27
Sidewalk in Essex. This image shows the relationship of the parking, the tree line, the sidewalk, the fence-line, and the house fronts. On this street, no curb is used to define automobile throughway and pedestrian throughway. On-street parking is understood to be on the street, not on the sidewalk.

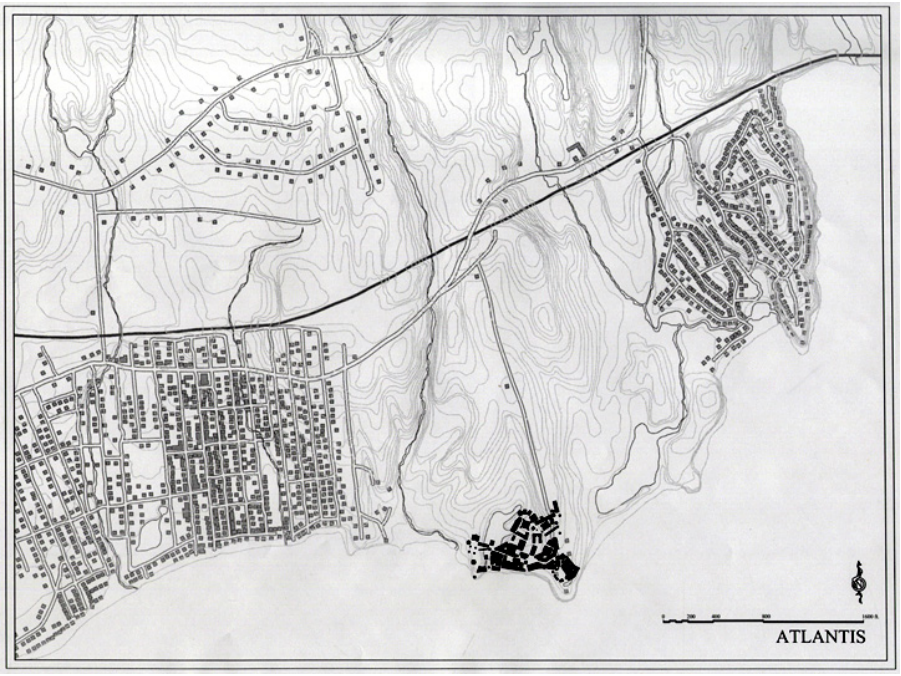
3.1.1.28
Houses in Essex. Minimal front yards and set-backs are typical in Essex. The formal expression of the residential typologies is also very consistent, resulting in a harmonious character. Side-yards and backyards are for private use; front yards usually for gardening. The lots are deep and narrow.

3.1.1.29
Commercial Type in Essex. Side-yards make spaces for commercial uses. The building maintains a consistent urban wall along the street while the entrance to the building slips along the side. A new private space is created adjacent to the building.



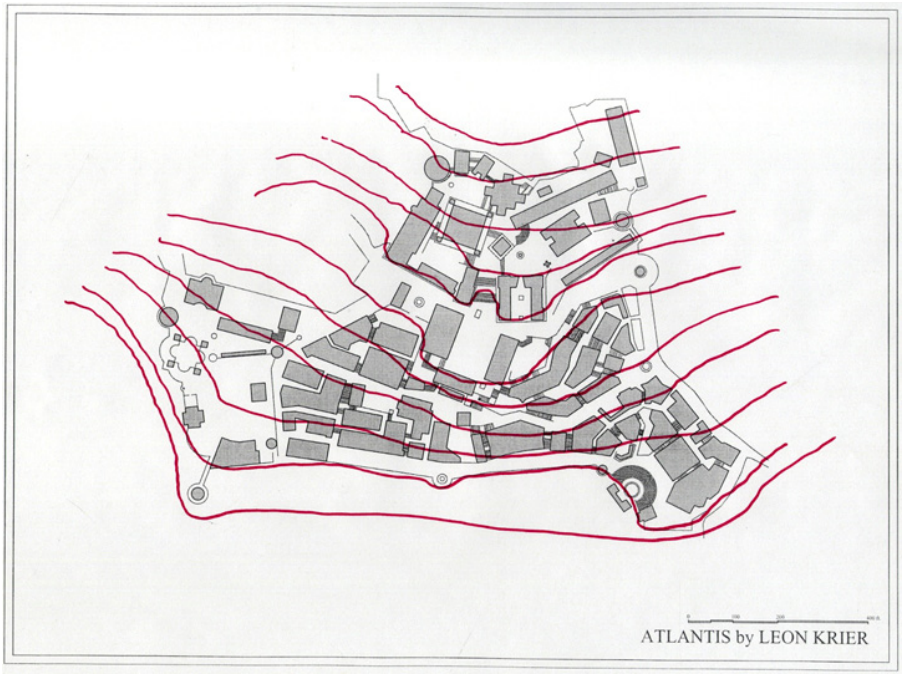


3.1.2.1 and 3.1.2.2
Ideological Precedents. These images show the chosen ideological precedents all at the same scale: Bath, England; Edinburgh, Scotland; Commonwealth Avenue, Boston; Beacon Hill, Boston; Atlantis by Leon Krier; Seaside, Florida; and Bern, Switzerland. These precedents offer their own unique insight into specific planning paradigms and have been chosen for specific reasons.



3.1.2.3
Atlantis on Site. In this image it can be seen how small Atlantis is in scale. Atlantis was designed as a tightly packed, medieval European city. However, multiple civic functions as well as residential houses were incorporated into this small plan.

3.1.2.4
Atlantis Analysis. This larger scaled plan of Atlantis shows its streets are not throughways for automobiles, but rather stairs and corridors for the pedestrian which is why it is such a small and compact city. An acropolis with civic types, a theater and library, a recreation facility, and an agora with commercial types are all contained in this beautifully crafted design.

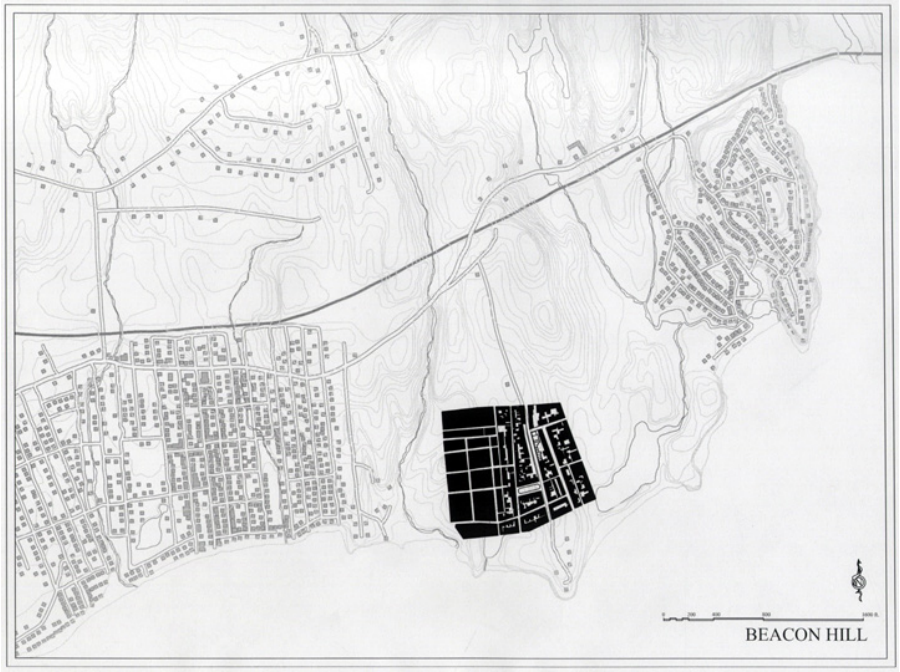


3.1.2.5
Atlantis Analysis. Atlantis was designed to take full advantage of steeply sloping topography. This serves as a model for how unique solutions can solve the problem of density and slope on a site. Further, the urban and architectural types were composed relative to topography; i.e. the acropolis was placed at the highest point in the city.

3.1.2.6
Atlantis Analysis. The streets of Atlantis are winding and irregular, organized in perspective to offer unique urban experiences at every corner. The spaces are also irregular, being shaped by the blocks or object buildings. Both streets and spaces work together to create a sense of compression and tension in the experience of the city.

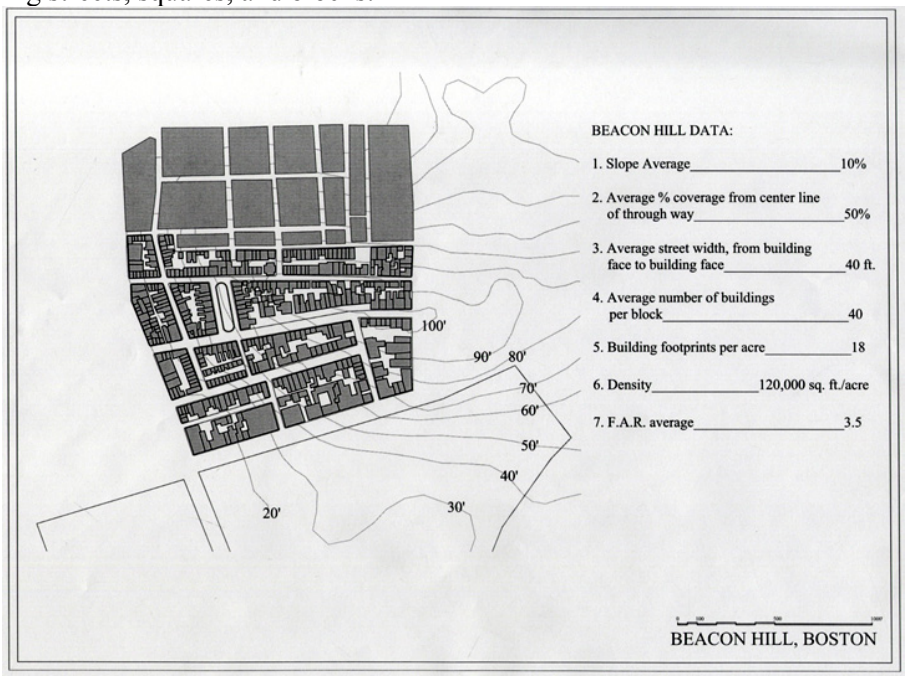
3.1.2.7
Atlantis Analysis. Space was made in two ways: object buildings were composed in such a way to create a contained space while offering dramatic views of the object buildings; fabric buildings shaped space by maintaining an urban wall to create unique shapes and places.

3.1.2.8
Atlantis Analysis. Buildings, views, blocks, and streets were all composed to offer unique and special urban views of the city. Decisions of space making were made through the use of perspective experience and not just plan.



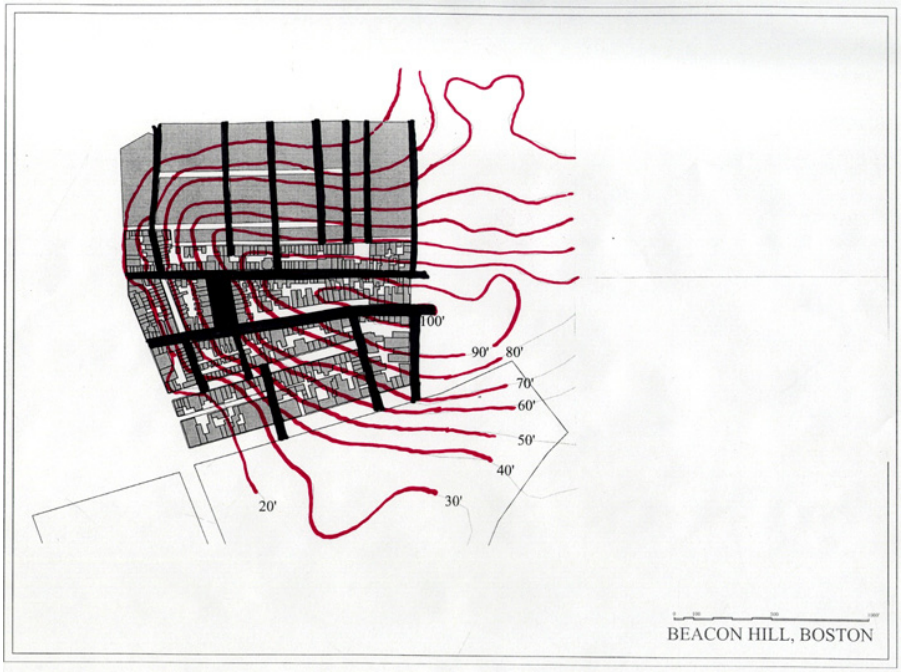
3.1.2.9

Beacon Hill on Site. The size of Beacon Hill in terms of area is quite appropriate to the project scale. Further, Beacon Hill offers insight into city planning in 19th century New England. Also, Beacon Hill shows how density can be increased on sloped topography while still making streets, squares, and blocks.



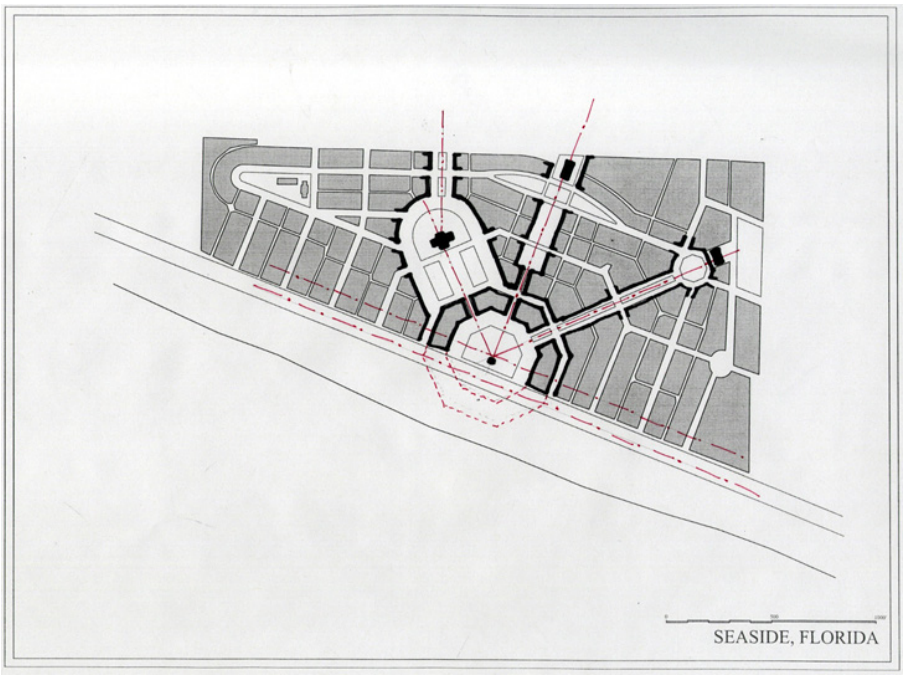
3.1.2.10

Beacon Hill Analysis. Urban data from Beacon Hill helps to illuminate issues of slope condition and resolution, site coverage, lot coverage, building and street scale, floor-to-area ratio, and density. Beacon Hill is one of the best examples of urban planning in the United States and an appropriate precedent for any urban design project.

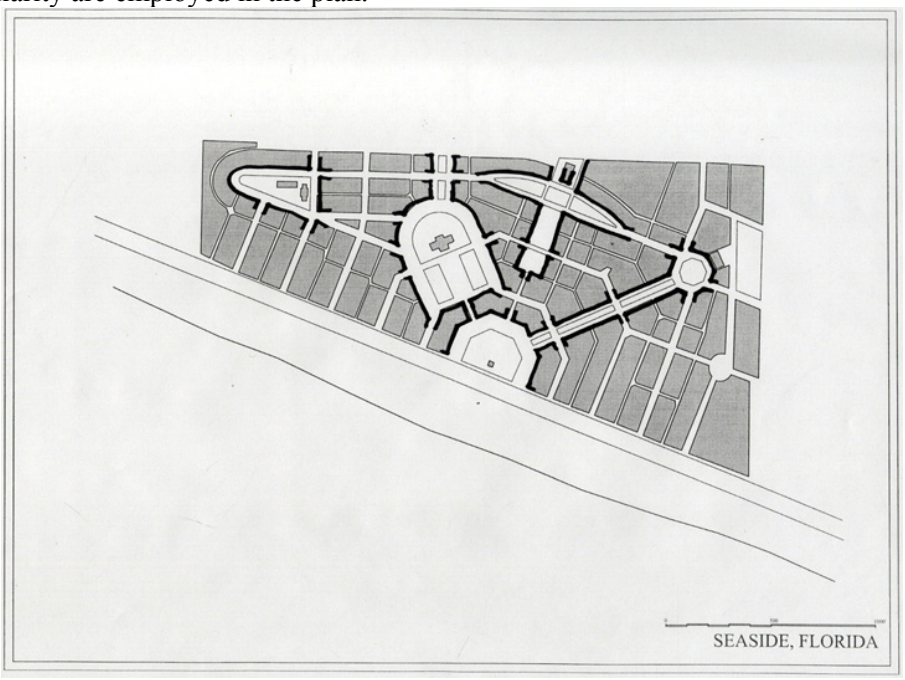


3.1.2.11
Beacon Hill Analysis. The street grid was resolved on the steep slope of Beacon Hill. The grid generally runs straight up and down the topography, warping when needed to accommodate the slope. The block density on such a dramatic slope (+10%) shows the current limitation of 5 units per acre on 5% slope is strange.

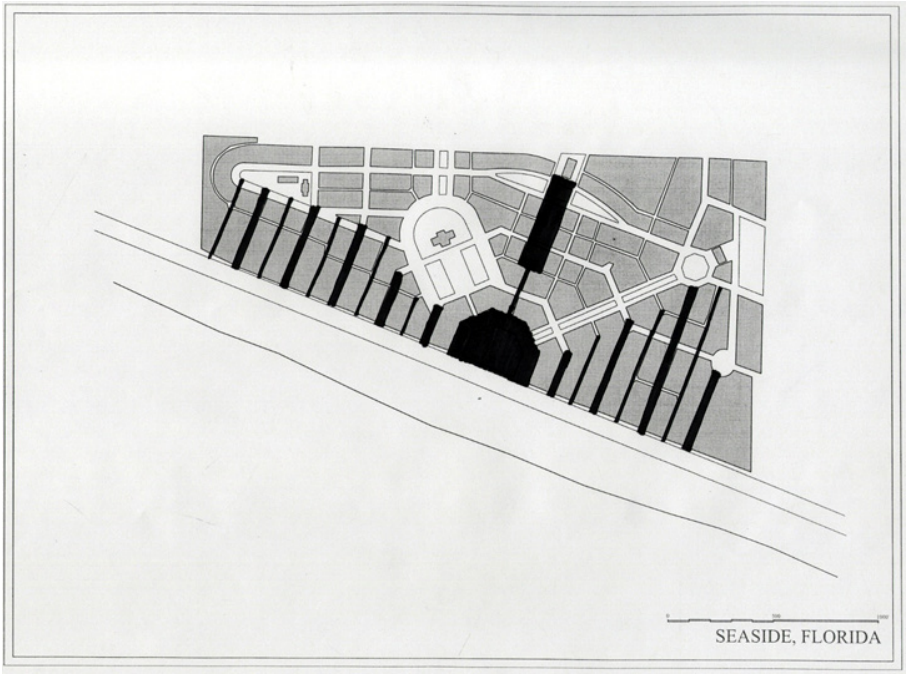
3.1.2.12
Seaside on Site. Seaside serves as an excellent programmatic precedent. Its size of 80 acres is identical to this thesis proposal.



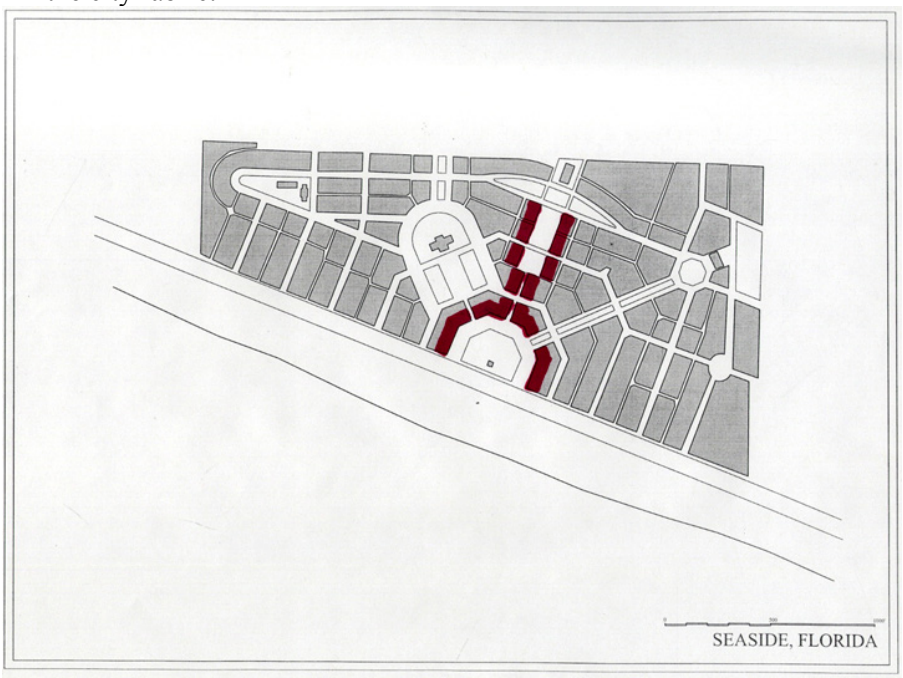
3.1.2.13
Seaside Analysis. Formal geometries and axes govern the design of Seaside. The town is one whole composition of rational and regular moves which create clear connections between city spaces and blocks. Principles of symmetry, proportion, center, hierarchy, axis, datum, and regularity are employed in the plan.



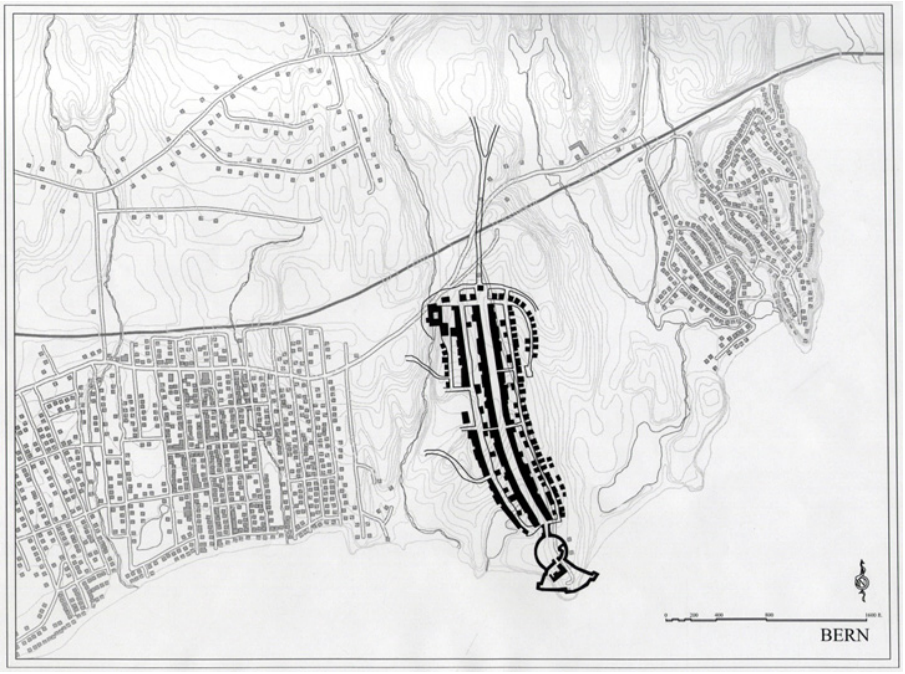
3.1.2.14
Seaside Analysis. All the public spaces of Seaside are clearly defined. Most are regularly and uniquely shaped to offer a different experience and character in each space. The hierarchy of space is very clear. Buildings contain the space by lining the edges.



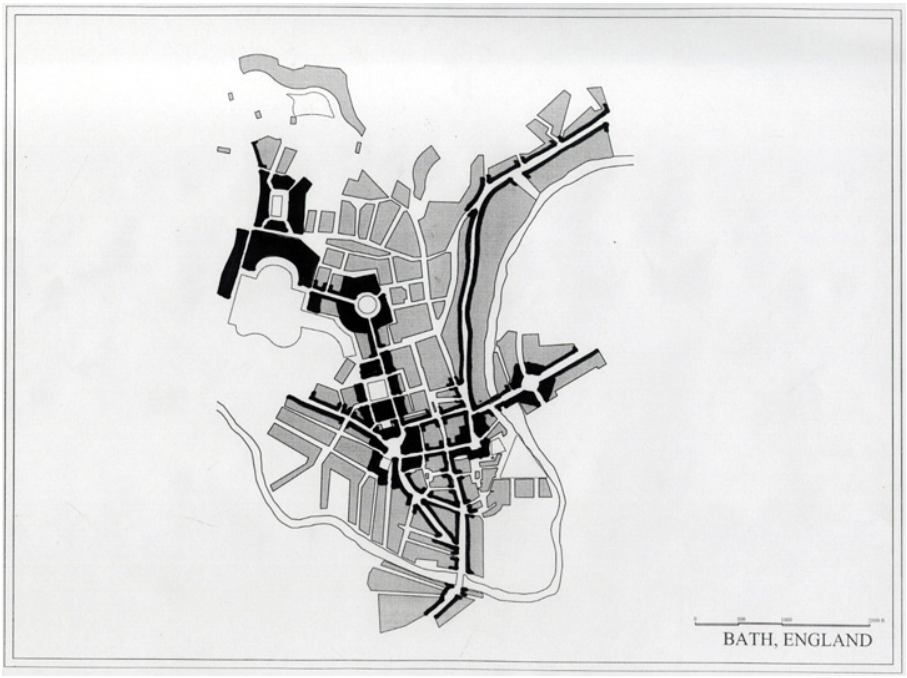
3.1.2.15
Seaside Analysis. Given that Seaside is a beach town, a majority of the street grid is generated by the waterfront, i.e. perpendicular to the beach. The main space of the city opens up to the water. Views are maintained down street corridors to offer glimpses of the water from within the city fabric.



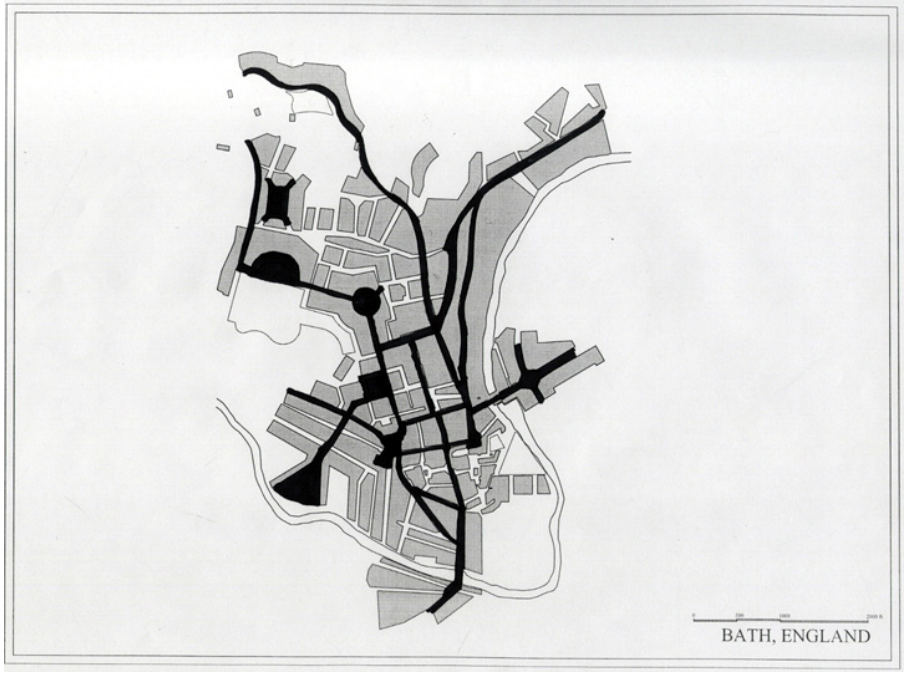
3.1.2.16
Seaside Analysis. The commercial types are organized around the central square of the town and the secondary square. They are located in the center of the city and at the water's edge.



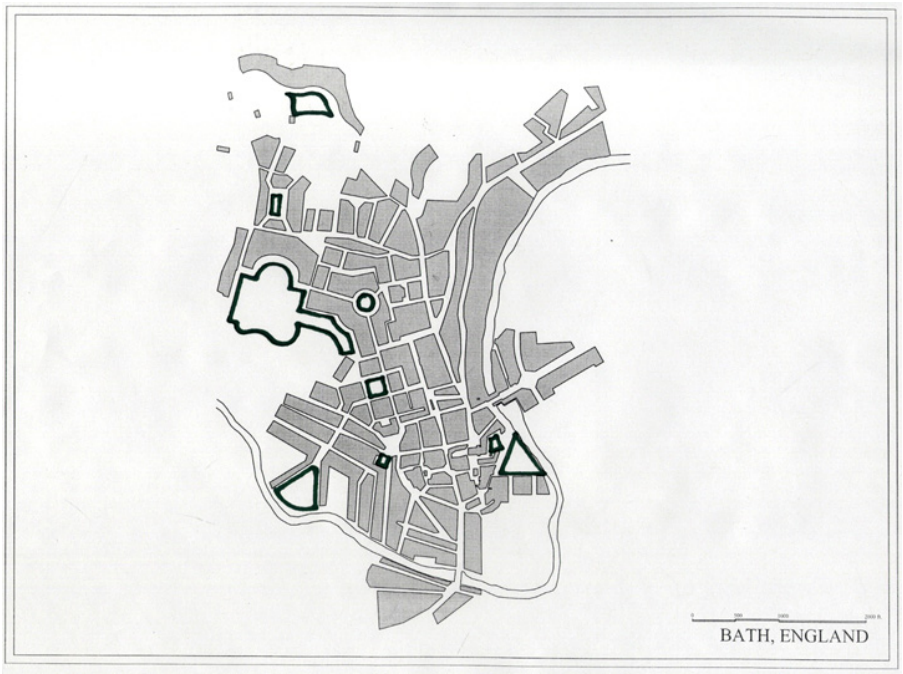
3.1.2.17
Bern on Site. Bern is a great example of a linear city. Given that the site has such a strong ridge line, Bern is a suitable model to study. Further, Bern's initial reason-for-being was commerce. Waterside tourism and commerce is something the thesis proposal supports. Bern's size is also important. From the city gate to the castle is the same distance as Shore Road to Hatchett Point.



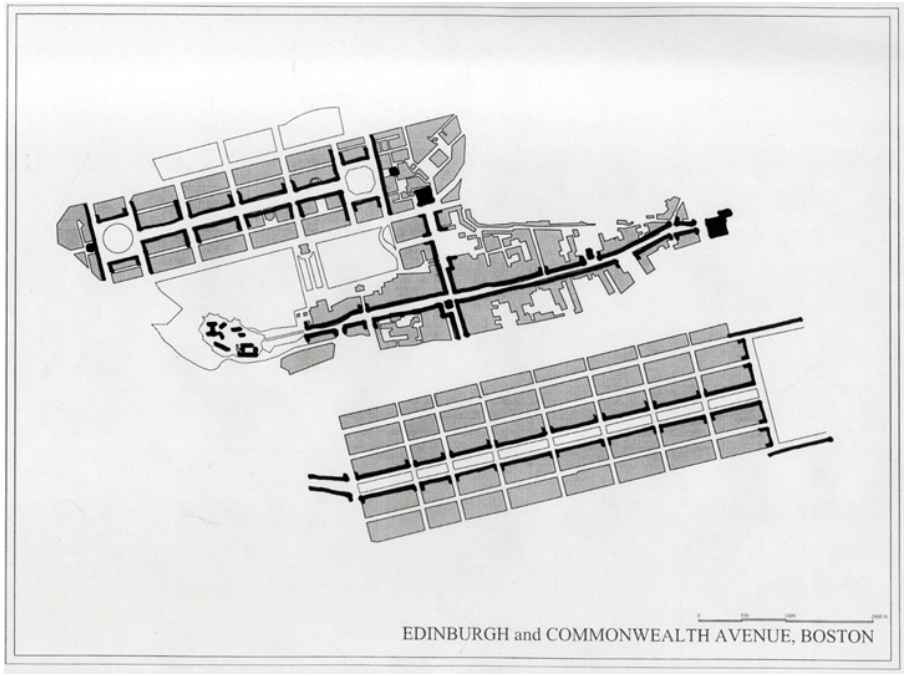
3.1.2.18
Bath Analysis. Bath shows Renaissance space making at its best with Queen's Square, the Circus, and the Crescent. Bath also shows a juxtaposition of medieval space making and Renaissance space making. Further, New England planning and architectural traditions come from cities like Bath.



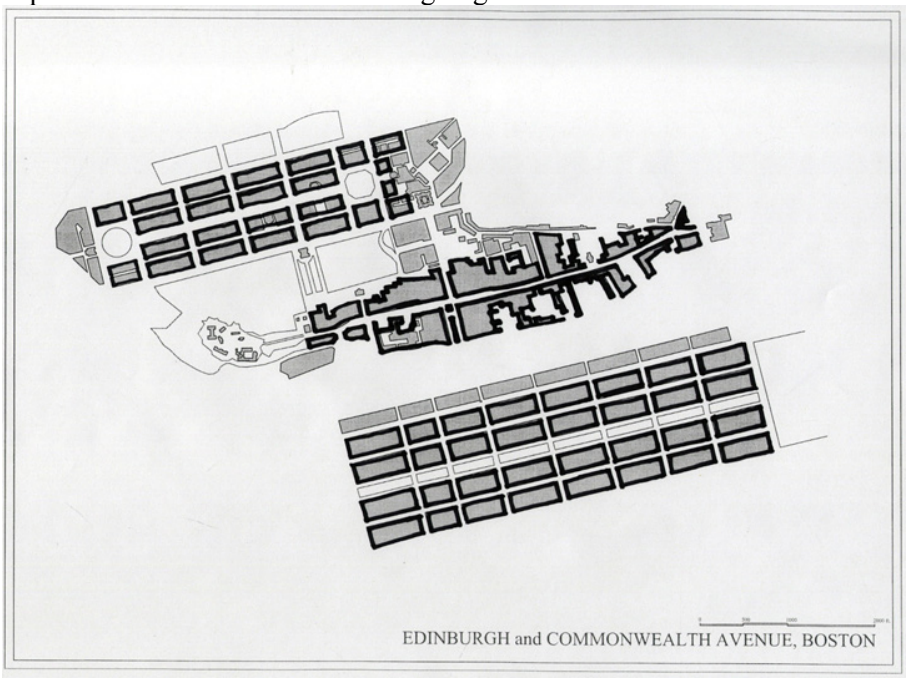
3.1.2.19
Bath Analysis. The figural spaces and connections can easily be seen in Bath. This kind of hierarchy and organization of streets and square is ideal for any new town plan. The figural spaces create unique urban conditions and allow for architectural innovation in articulating the urban wall surface.



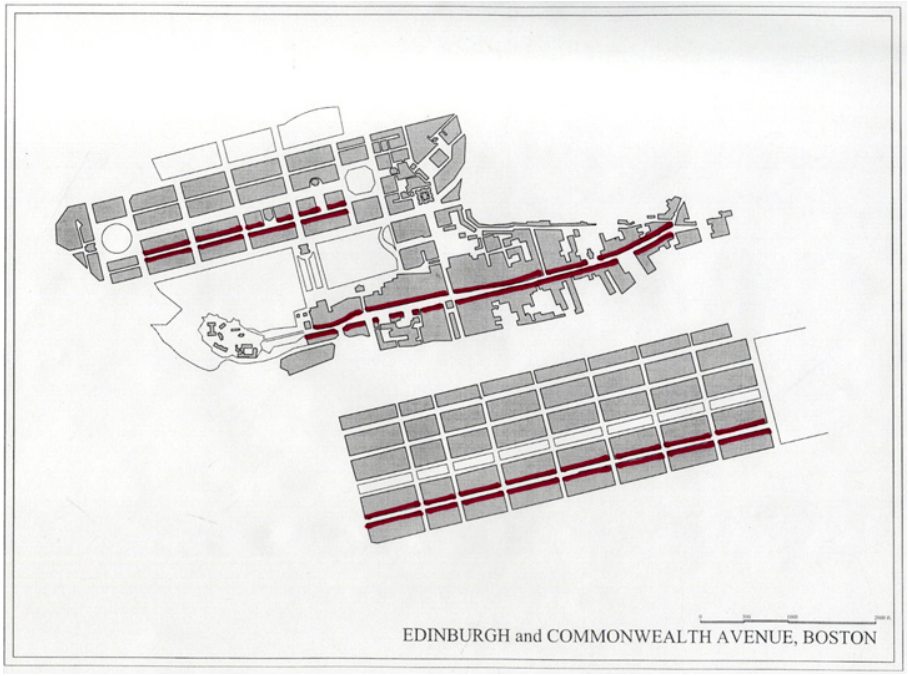
3.1.2.20
Bath Analysis. One of the main ideas behind the design of Bath was to incorporate landscape elements, both figural and residual, into the urban fabric. This goal is parallel to one of the goals of this thesis project.



3.1.2.21
Edinburgh and Commonwealth Analysis. Edinburgh demonstrates two different solutions to a site condition related to this thesis: the medieval solution and the Renaissance solution. The Renaissance solution uses regular blocks, streets, and spaces, while the medieval solution use one linear street to organize blocks that extend out. Commonwealth Avenue bears a great deal of resemblance to Craig's New Town. As such, it is paired in the analysis.
Both examples demonstrate methods of designing a linear urban form.

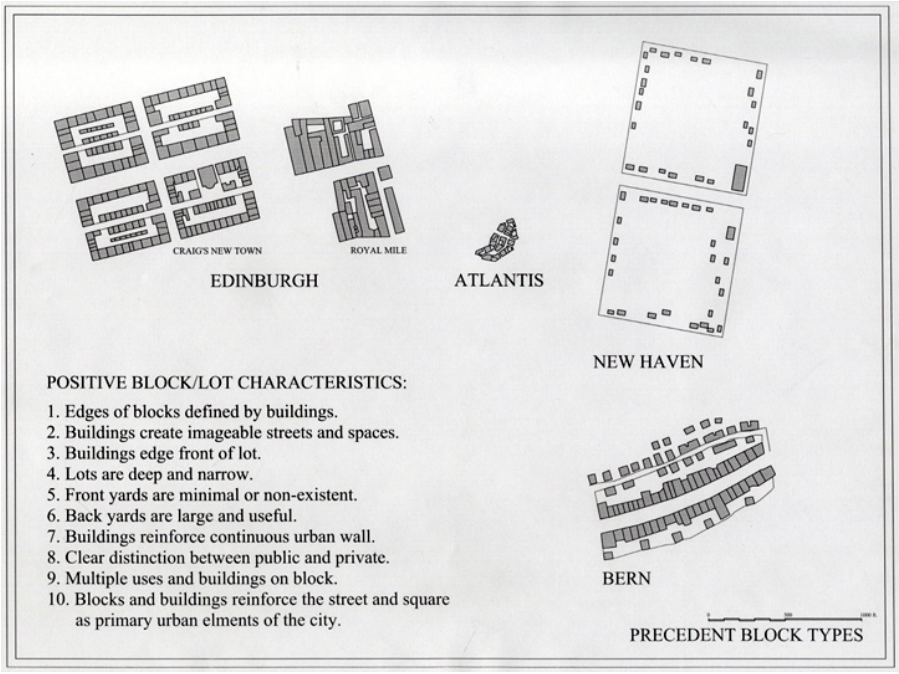


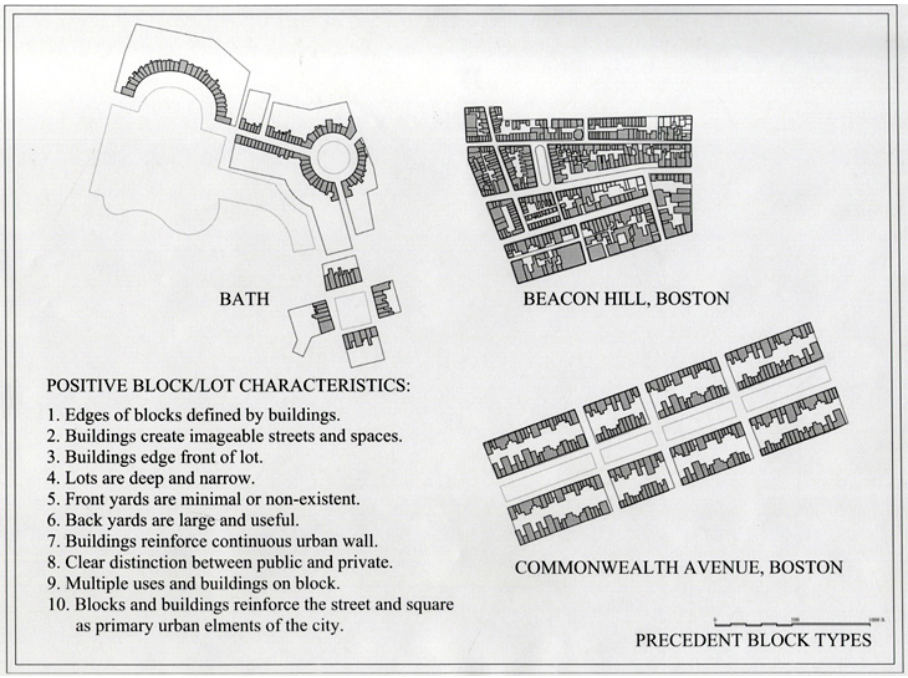
3.1.2.22
Edinburgh and Commonwealth Analysis. The block structure and street organization of these two urban conditions is quite varied, but the linear solution is insightful.



3.1.2.23

Edinburgh and Commonwealth Analysis. The commercial distribution in each condition is worth noting. In Craig's New Town and Commonwealth Avenue, the commercial street is off the major street. The major street is reserved for residential activity and a long green space. The commercial street along the Royal Mile is obviously the main street.





3.1.2.23 and 3.1.2.24
Block Analysis of Precedents. These images are the blocks of the precedents at the same scale. They show the similar treatment of the block, street, building, and private space. The building edges the lot to create an imageable path or space. The back yard is used as the private space. Even in New Haven, where the density is relatively low, the buildings reinforce the street edge. These block analyses show the radical difference between traditional urban planning and contemporary suburban planning.

CHAPTER 4: FUNCTIONAL CONSIDERATIONS AND PROGRAM

4.1 – Program:

The functional considerations and program of the thesis project are related to the size of the community as well as the type of community the design attempts to create. A comprehensive town plan should contain the necessary functions that allow the town to be independent, productive, accommodating, and prosperous.

Current planning ideology regards mono-functional development as sufficient to create communities. However, mono-functional development does not create a community; it creates a zone of use. Multi-functional development is necessary to create successful communities.

Multi-functional development is another characteristic of the traditional city. It is an error to believe bedroom communities, strip malls, commercial zones (the functional types of modern planning) are sufficient aesthetically, theoretically, or functionally. The traditional city accommodates the daily, weekly, and monthly needs of each citizen while providing diversions and entertainment. In traditional models, the entire city is based on a public realm and a private realm: both necessary to the city, both dependent upon each other. Citizens and groups, architectural and urban types, and sacred and secular spheres were parts of the whole city on multiple levels. This ideology was reflected in the program of traditional cities. As such, the program of this thesis reflects that same ideology.

4.1.1 – Comparable Functional Program:

Seaside serves as a model precedent for a comparable functional program for the 21st century. It is a starting point for the development of the program for this thesis. The size of Seaside and the size of this thesis project are similar. The same functional requirements Seaside satisfies are the functional requirements this thesis project satisfies.

The program of Seaside as well as existing programmatic conditions in beach towns in New England were analyzed to assist the development of the thesis program. Both offer insight as to how functional program was accommodated in the urban plan. This information is presented graphically in the gallery of plates (Plates 61 - 65) at the end of this chapter and in Table 4.1.1.1, which compares the program of Seaside with the proposed program of the thesis project. The captions provide the necessary explanation for each image and offer further insight into the relevance of the programmatic elements.

Program of Seaside, Florida:	
Size	80 acres
Number of residential units	480 (6 units/acre)
Typical lot size	4,500 sq. ft.
Typical lot proportion (short side along street)	1/1.5
Typical retail frontage	25-30 ln. ft.
Number of commercial units	80 units
total sq. ft.	130,000 sq. ft.
Number of multi-family units	40 units
total sq. ft.	65,000 sq. ft.
Number of apartment/condo units	100 units
total sq. ft.	100,000 sq. ft.
Number of single-family units	340 units
total sq. ft.	650,000 sq. ft.

Proposed Program:	
Size	80 acres
Number of residential units	480 (6 units/acre)
Typical lot size	4,500 sq. ft.
Typical lot proportion (short side along street)	1/2.0
Typical retail frontage	25-30 ln. ft.
Number of commercial units	80 units
total sq. ft.	130,000 sq. ft.
Number of multi-family units	40 units
total sq. ft.	65,000 sq. ft.
Number of apartment/condo units	40 units
total sq. ft.	40,000 sq. ft.
Number of single-family units	400 units
total sq. ft.	800,000 sq. ft.
Maximum street width	38 ft.
Maximum building height	4 stories
F.A.R.	Range: (1) to (2)

Table 4.1.1.1
Comparison of the program of Seaside, Florida and proposed program.

4.1.2 – Proposed Functional Program:

The proposed program was merely a starting point for the thesis. The program still remains flexible and can change with further exploration. Some of these comparative program requirements have been adhered to, some have been changed.

Other requirements have been added, some taken away. One of the goals of this thesis is to design a town that can accommodate a range of programmatic requirements without being limited to specifics. Good urban planning allows for fluctuating program because over time, changes in land-use inevitably occur.

The second part of the proposed functional program includes a list of possible programmatic elements (Table 4.1.2.1) including required spaces, square footage, and number. Some of these elements are essential to the design of a traditional town, such as the town hall, the church, public spaces, etc. Some of these elements are conditional. They could be altered, changed, enhanced, or eliminated without altering the type or overall master plan. There are also other programmatic elements not on the list that could be incorporated into the town plan if needed.

Proposed Programmatic Elements:		
Marina		2-3 acres
	Private slips	20 to 30
	Public slips	8 to 10
	Cruise/Boathouse	5,000 sq. ft.
	Whaling cruises	
	History cruises	
	Boat making	
	Lunch, dinner, party cruises	
	Cruises to islands	
	Parking	40 spaces + on-street
	Fishing - recreational	200 ln. ft. of dock
Commercial		130,000 sq. ft.
	Gifts, collectables	
	Antiques	
	Small shops	
	Restaurants	
	Parking	on-street
Library		6,000 sq. ft.
	Community library	
	Historical Society	
	Parking	15 spaces
Post Office		1,000 sq. ft.
Church		5,000 sq. ft.
	Catholic, Baptist, Lutheran, Protestants	
	Parking	40 spaces + on-street
Recreation Building		10,000 sq. ft.
	Cycling	
	Boating	
	Hiking	
	Beach related	
	Basketball, tennis, baseball, soccer, indoor gym	
	Parking	30 spaces + on-street
Inns/Bed and Breakfast		3,000 sq. ft. each
	Parking	on lot, 1 per unit

Proposed Programmatic Elements:		
Hotel		10,000 sq. ft.
	Banqueting facilities	2,000 sq. ft.
	Parking	40-50 spaces + on-street
Lighthouse		
Police Station		2,200 sq. ft.
	Parking	4 spaces + on-street
Fire Station		3,000 sq. ft.
	Parking	4 spaces + on-street
Medical facility		1,200 sq. ft.
	Small facility for emergency treatment	
	Parking	3 spaces + on-street
Town Hall		5,000 sq. ft.
	Parking	5 admin + on-street
Train Station		2,000 sq. ft.
	Parking	50 spaces
Pavilions		
	Gateways to beach with shower and changing facilities	
Grocery		3,000 sq. ft.
	Provides local daily and weekly needs	
	Serves local specialties	
	Parking	25 spaces + on-street
Movies		3,000 sq. ft.
	2 small theaters	
	Ability to show movies on beach in summer	

Table 4.1.2.1
Proposed Programmatic Elements

4.1.3 – Demographic Goals:

A proposed list of demographic types has been included (Table 4.1.3.1) to demonstrate that this thesis has considered the potential socio-economic conditions

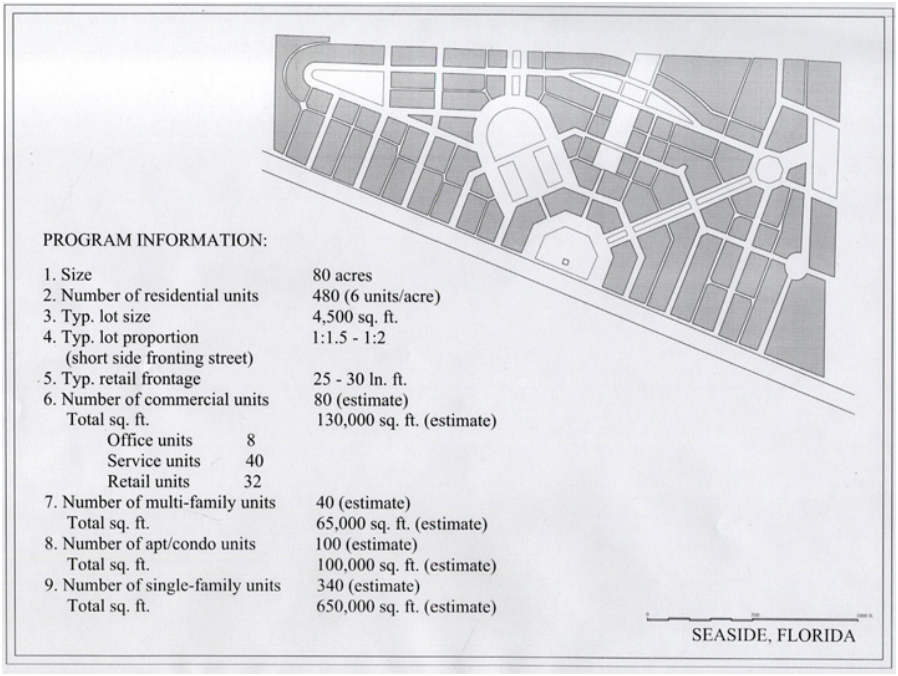
and implications of this project. The goal is to provide for this spectrum of socio-economic classes in the community.

Proposed Demographic Types:	
Community Type	**Small Town**
Small Town Blue-Collar Families	Type 1
Age Group	35-64
Housing Type	Owners - Single Family
Socio Economic Rank	Middle
Type	Blue-collar families
Retired	Type 2
Age Group	55-65+
Housing Type	Owners - Single Family and Multi-unit
Socio Economic Rank	Middle
Type	Retired couples
New Homesteader Families	Type 3
Age Group	35-54
Housing Type	Owners - Single Family and Multi-family
Socio Economic Rank	Middle
Type	Young Middle-class couples & families
Skilled Craftsman Families	Type 4
Age Group	35-54
Housing Type	Owners - Single Family and Multi-family
Socio Economic Rank	Middle
Type	Middle-scale couples and families
New Eco-Active Families	Type 5
Age Group	35-65+
Housing Type	Owners - Single Family
Socio Economic Rank	Middle
Type	White and Blue-collar families
Scenic Ex-urbs	Type 6
Age Group	35-54
Housing Type	Owners - Single Family
Socio Economic Rank	Affluent
Type	Couples and White-collar families

Table 4.1.3.1
Proposed Demographics for Thesis Project. Demographic Type definitions taken from CLARITAS, PRIZM, and Spielberg's Best Places. http://www.houseandhome.msn.com. Demographic types typical of the region.

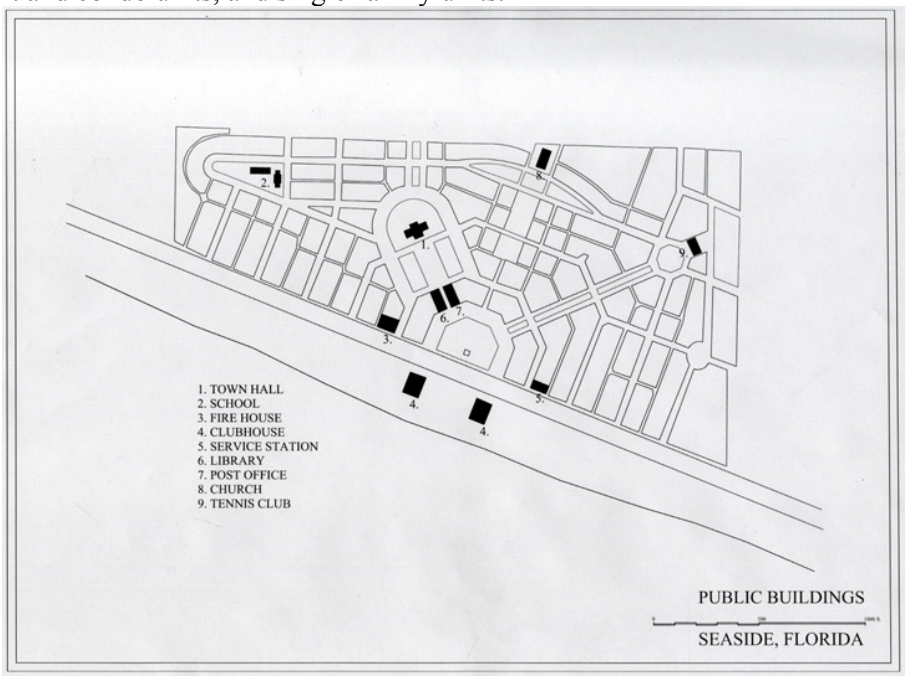
4.1.4 – Functional Diagrams:

The functional diagrams communicate special functional conditions that are desired or required for the project. These are shown in the gallery of plates (Plates 66 - 69) at the end of this chapter. The captions provide the necessary explanation for each image.



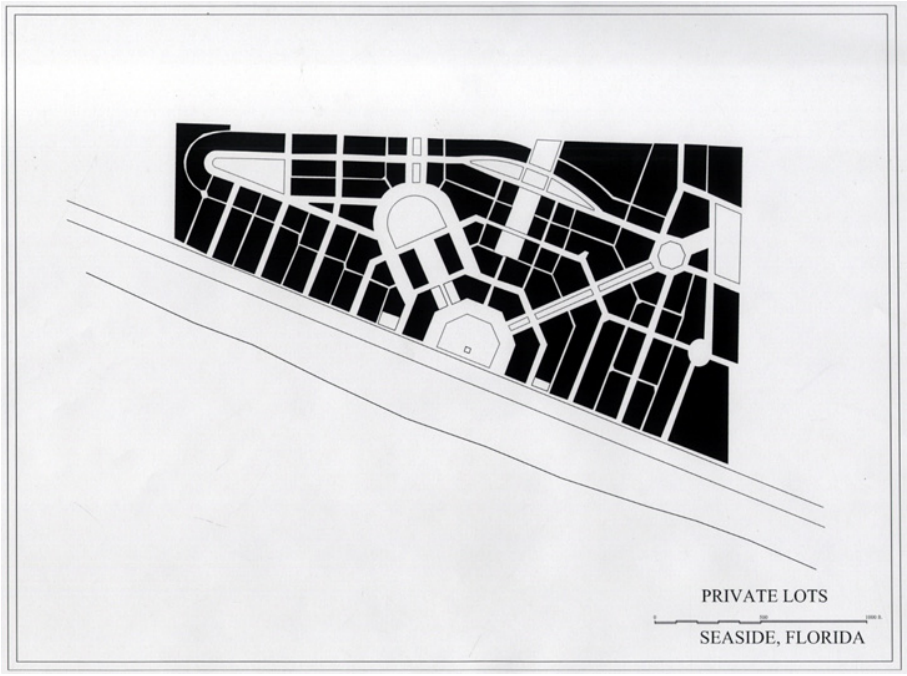
4.1.1.1

Seaside Program Analysis. Seaside serves as an excellent programmatic precedent. Its size, scale, and scope are similar to this thesis proposal. Seaside covers 80 acres with 480 residential units (6 units per acre.) Seaside also has commercial units, multi-family units, apartment and condo units, and single-family units.

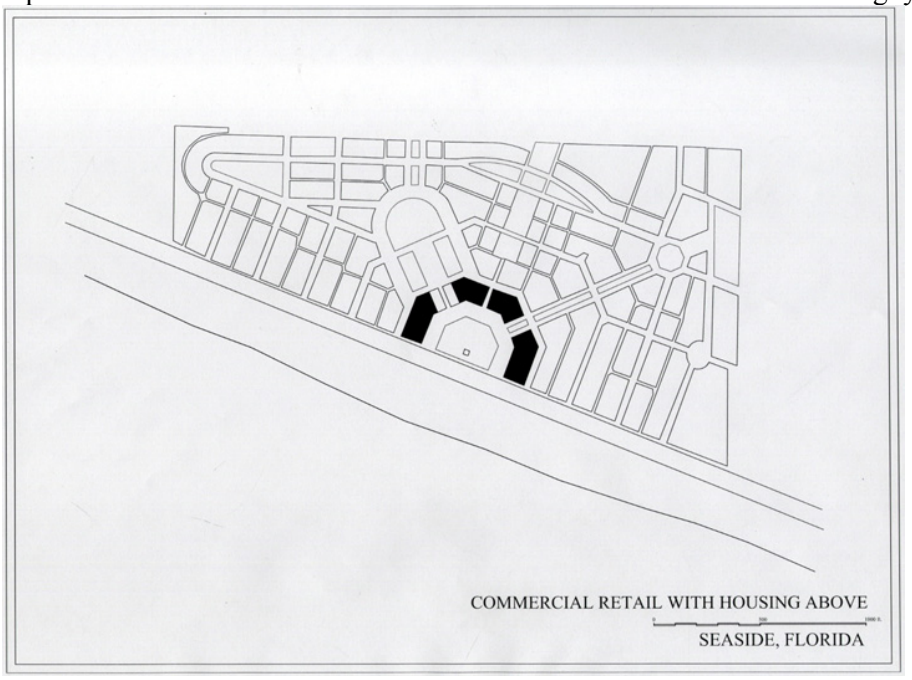


4.1.1.2

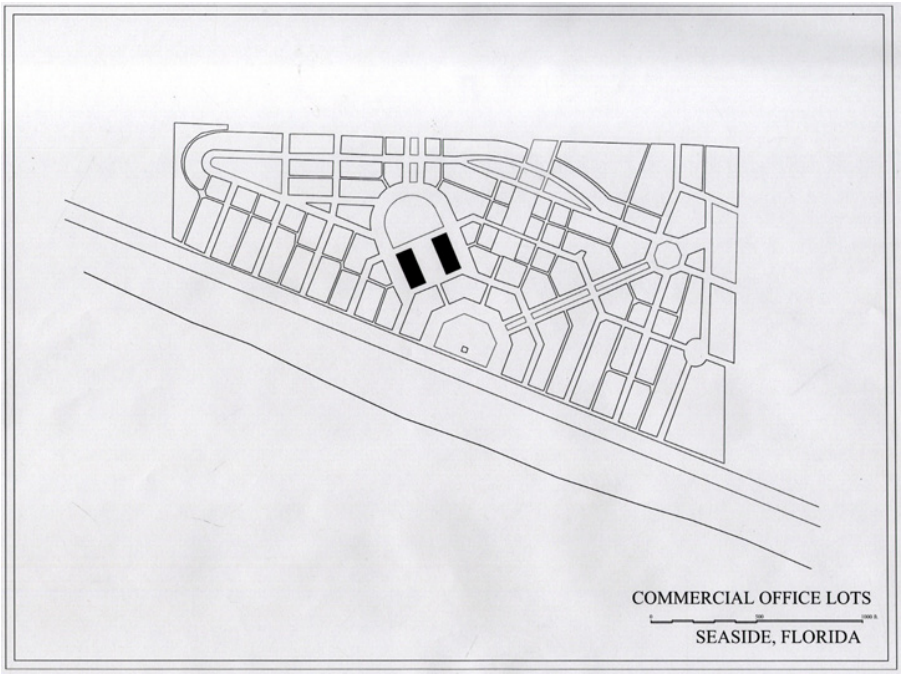
Seaside Program Analysis. Multiple civic and public building types were incorporated into the plan of Seaside. A town hall, a school, a clubhouse for recreation, a church, and a library are only a few of the programmatic elements of Seaside. Both private and public typologies are necessary for a city.



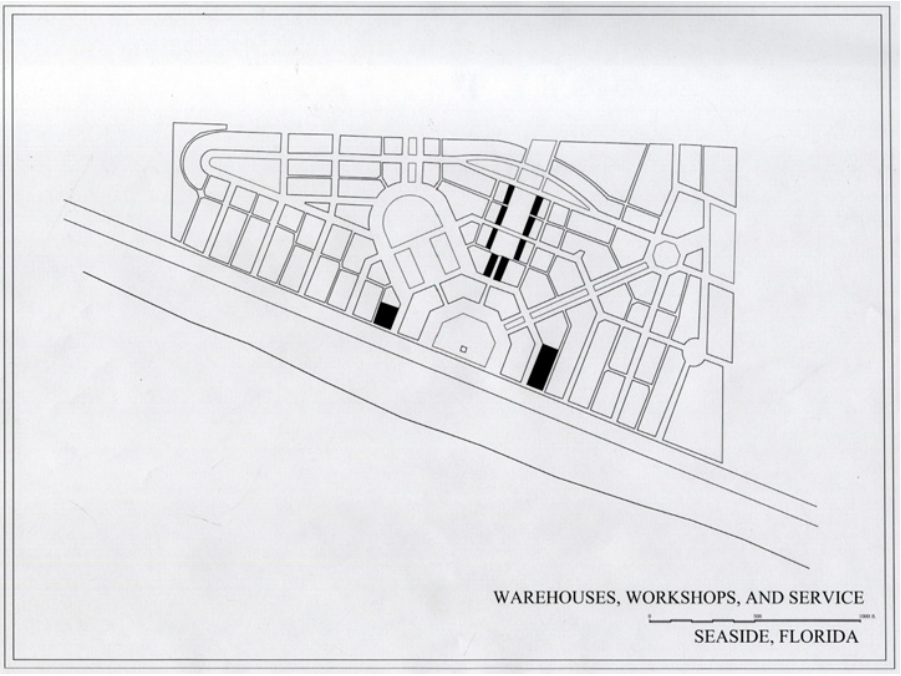
4.1.1.3
Seaside Program Analysis. Seaside is divided into public and private lots. This diagram shows the private lots. Private lots are used for residential and commercial building types.



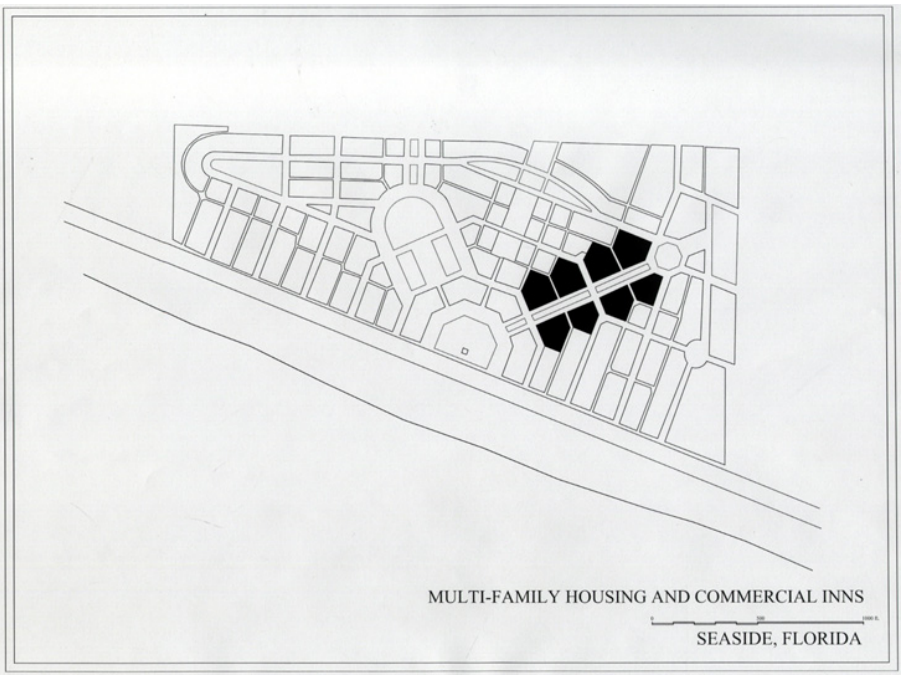
4.1.1.4
Seaside Program Analysis. Commercial retail lots that have housing above are located at the center of the city around the main square and adjacent to the highway.



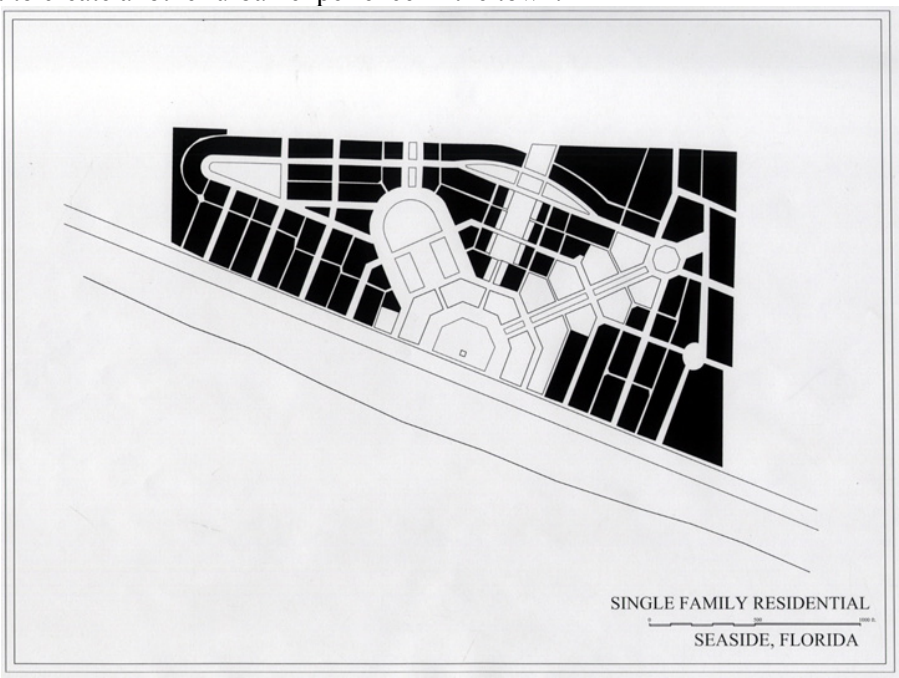
4.1.1.5
Seaside Program Analysis. Commercial office lots are located adjacent to the town hall.



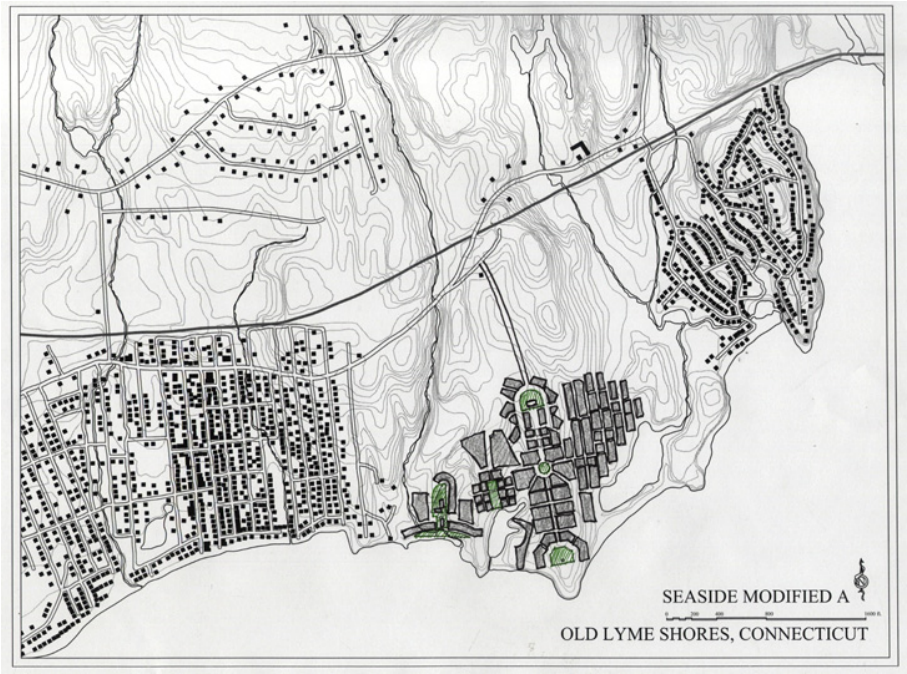
4.1.1.6
Seaside Program Analysis. Warehouse, workshop, and service lots also essential to maintain the city and provide modern conveniences and necessities.

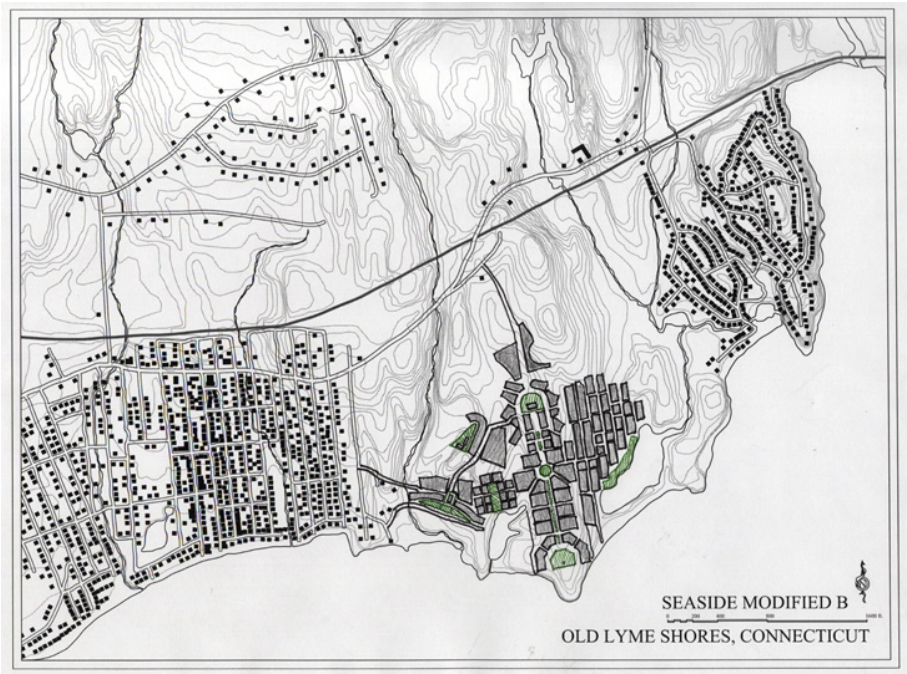


4.1.1.7
Seaside Program Analysis. Multi-family and commercial housing lots are off a major street that radiates from the main square. This street is designed with a green down the center of the street to create another urban experience in the town.

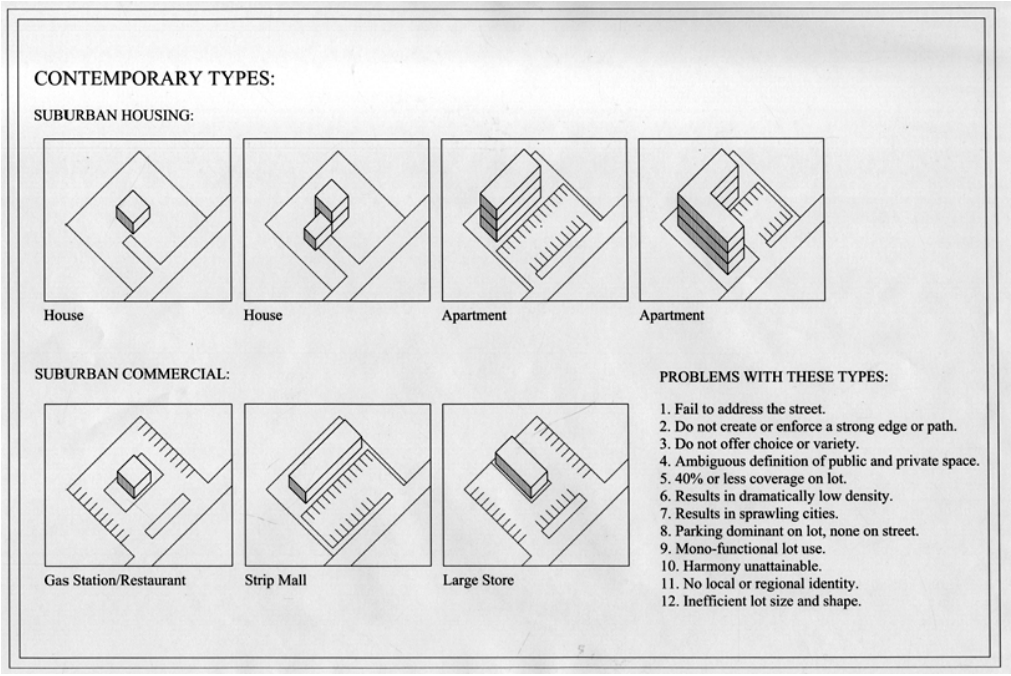


4.1.1.8
Seaside Program Analysis. The majority of Seaside consists of single-family lots. However, Seaside offers other housing typologies as well, such as apartments, condos, and multi-family types.

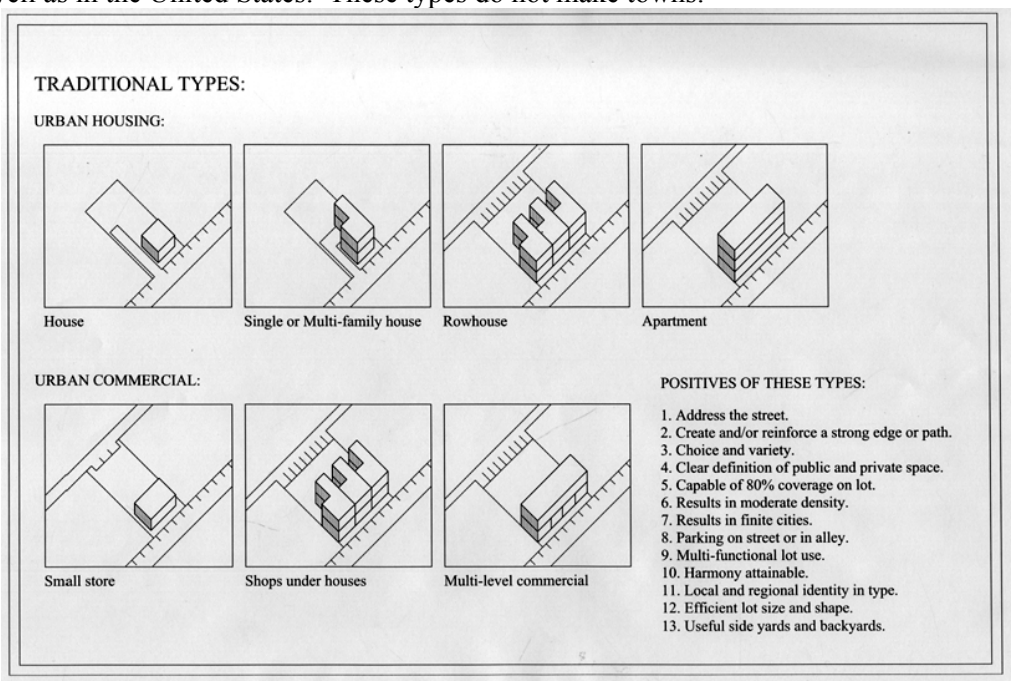




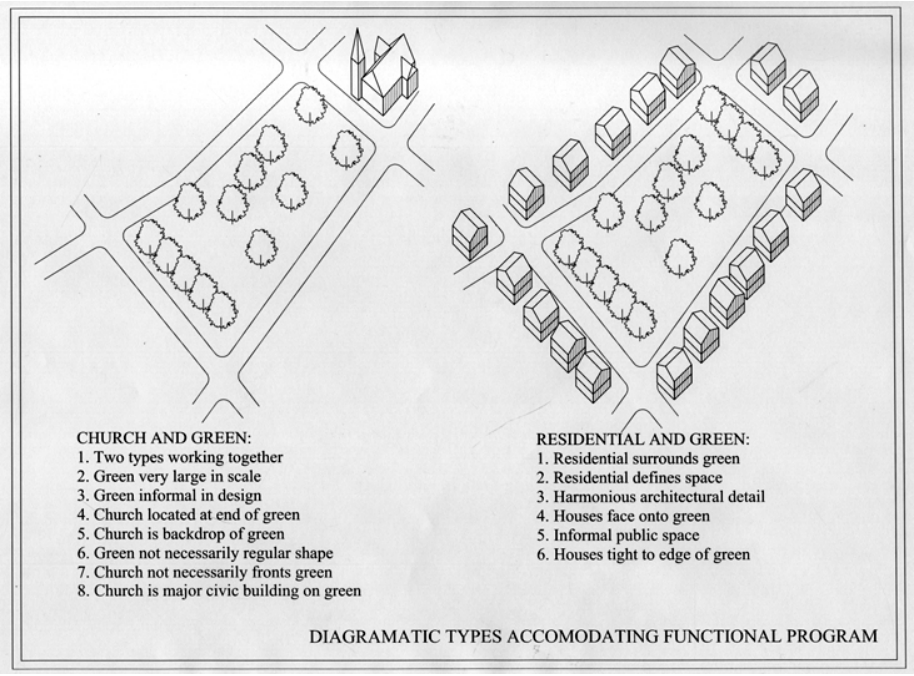
4.1.1.9 and 4.1.1.10
Seaside on Site. These two images are an exercise of taking the blocks and program of Seaside and rearranging them on the site of the thesis proposal. The site can easily accommodate a program similar in size to Seaside. The blocks were rearranged on the site with considerations of the topography, land-use, and thesis design intent.



4.1.4.1
Contemporary Types. This figure shows various contemporary residential and commercial types. These are types which result in poor planning throughout the region of the thesis site as well as in the United States. These types do not make towns.

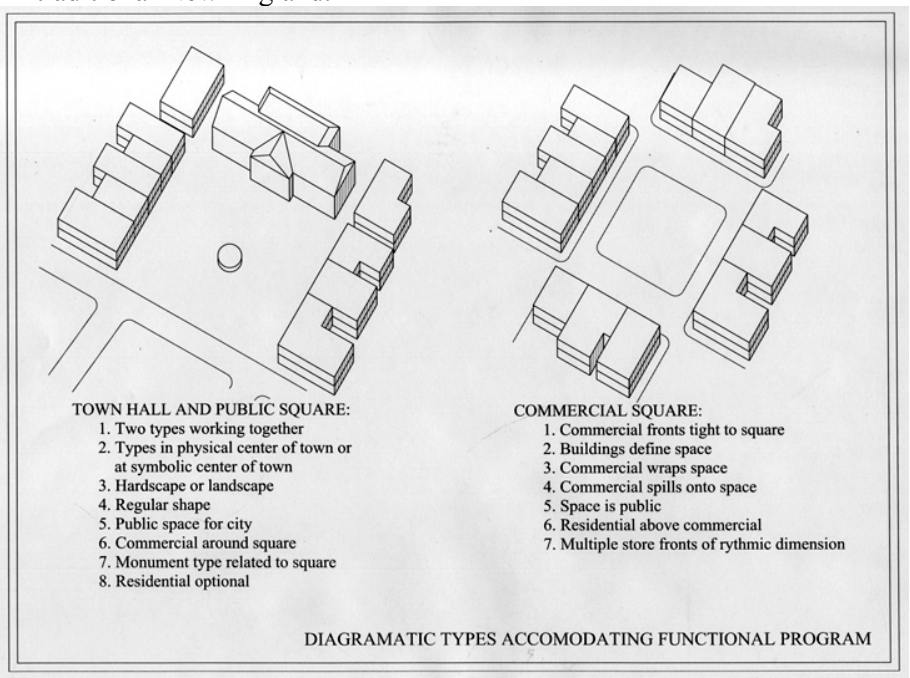


4.1.4.2
Traditional Types. These types create good urban conditions while accommodating functional program. This thesis uses these types in the design.



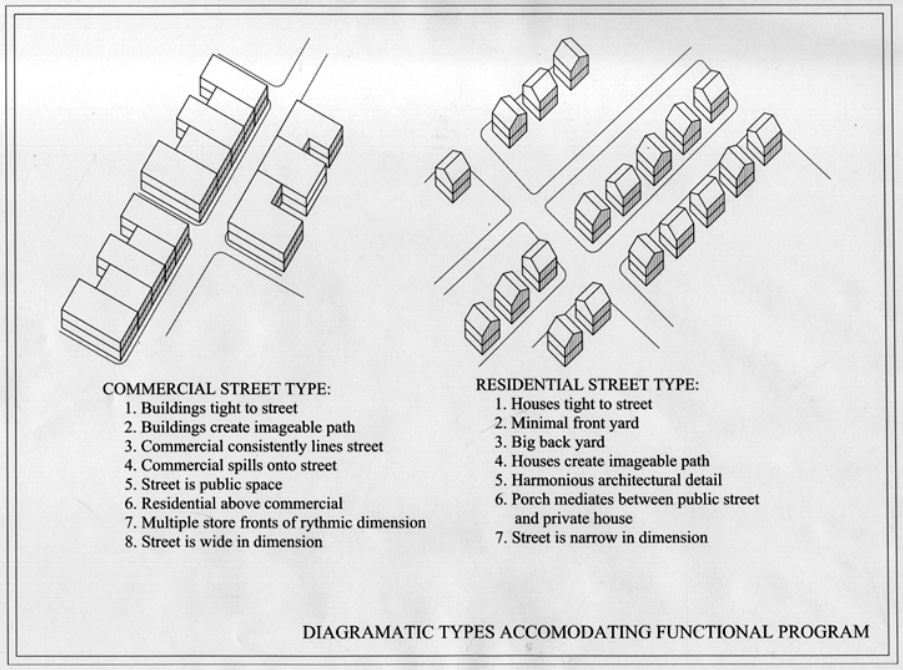
4.1.4.3

New England Town Green. The green is a type unique to New England. It is a large open space, informal in character, with surrounding residential types. Often, the town church is located at one end of the green. These diagrams show how these functions and forms work together in traditional New England.



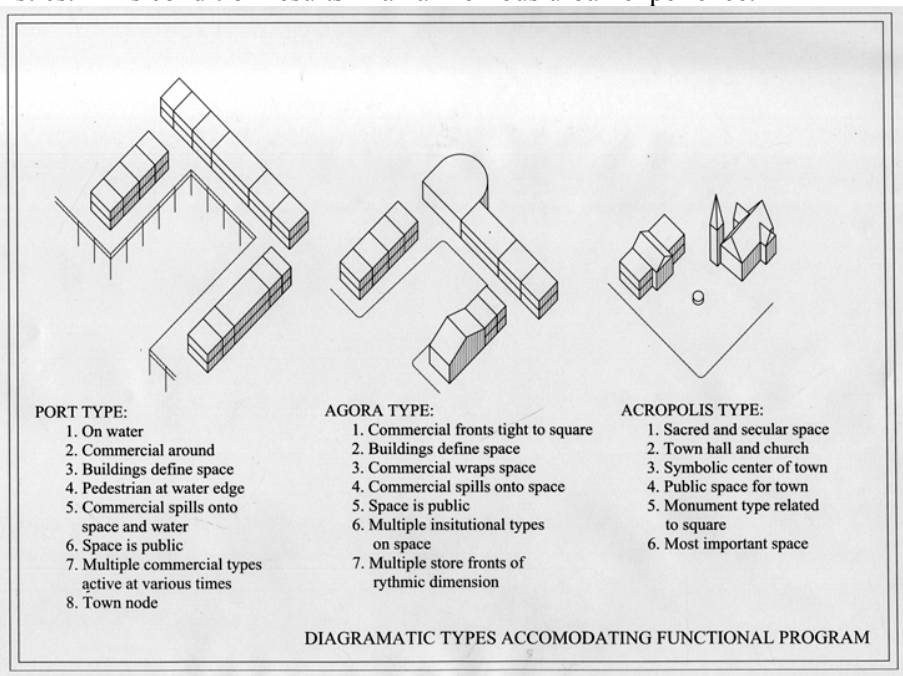
4.1.4.4

Public Spaces. Traditional public spaces in New England are often associated with specific functions. The town hall and main public square work together. The commercial square, sometimes separate from the main square, is lined with commercial functions with residential above.



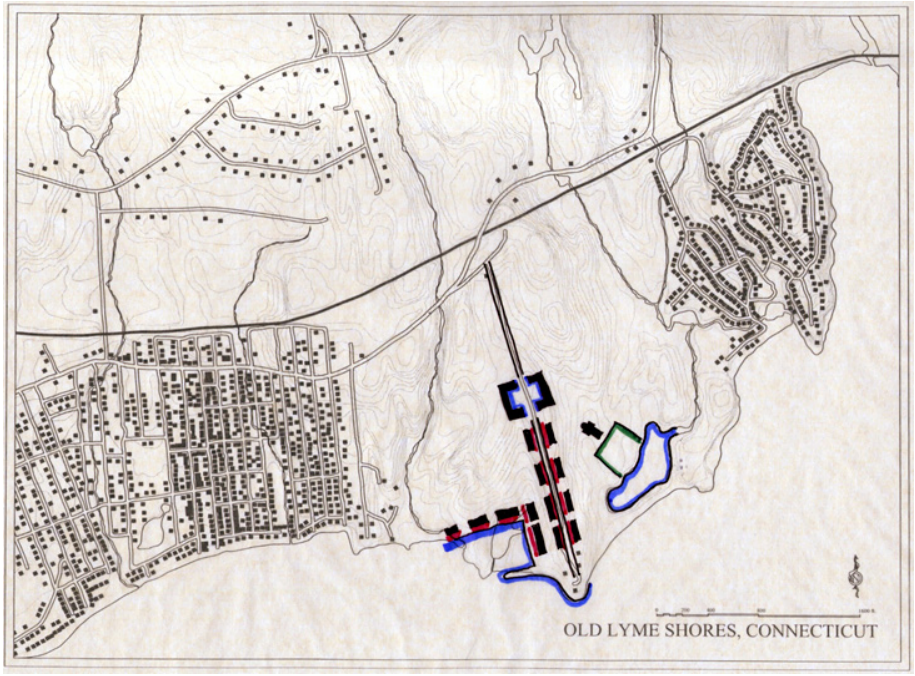
4.1.4.5

Streets. Traditional New England street types accommodate various functions. Commercial streets are lined with commercial activity with residential above. Residential streets are lined with single-family and multi-family units that share similar formal and architectural characteristics. This condition results in a harmonious urban experience.



4.1.4.6

Greek Typologies. These Greek typologies, adapted to American culture, are suitable to the thesis project. The port type accommodates waterside commercial activity as well as the marina. The agora type accommodates other commercial activity as well as civic functions such as libraries and theaters. The acropolis type accommodates the city hall and church types.



4.1.4.7

Typologies on Site. This diagram shows a possible layout for specific urban and architectural typologies. The church and green are off the pond and separate from the main square; a condition typical of New England. The main street along the ridge line is a suitable commercial street type. The port type is organized around the new marina. The acropolis/main square site is at the top of the ridge at the highest point of the site.

CHAPTER 5: DESIGN ISSUES, PROBLEMS, AND GOALS

5.1 – Design Issues:

The design issues are broken down into four categories: regional conditions, needs, site, and recommendations. Regional conditions highlight background information relative to the specific site. Needs address existing social and economic conditions in the immediate area around the site. Site issues outline physical conditions of the site and its context. Recommendations have been made based on ideological intent of the thesis project.

5.1.1 – Regional Conditions:

Proximity to New York, New Haven, Hartford, Providence and Boston means a great potential for tourism and reason for developing another beach community. A percentage of the surrounding beach communities consist of second homes of the people who live in cities.

Most of the beachside residential communities are seasonal for two reasons. First, year-round water is not supplied to homes. Residents who choose to live in the community year-round dig wells. However, there is no impediment that cannot be overcome to provide year-round water. Second, as mentioned, a percentage of these homes are second homes only occupied during the season.

Seasonal tourism booms in New England during the summer months. The peak seasonal period runs from Memorial Day to Labor Day, with the Fourth of July being the major date of the season with the most people in the area. The new town seeks to engage that tourism and use it as a resource.

The governing bodies of beach communities manage both public and private beaches. The public beaches are open to any visitor who wants to enjoy a day at the shore. The private beaches are reserved for members of the communities, their families, and guests.

5.1.2 – Needs:

There is a high demand for housing in the region, growth is occurring, and more and more people are coming to the shore to enjoy the lifestyle. These needs must be satisfied with a comprehensive plan for development. Both year-round and seasonal homes are currently being constructed to meet housing demands.

The high number of visitors to the area must be managed appropriately. Available parking; access to the site and its amenities via automobile, commuter train, and on-foot; and the distinction between public and private realms are necessary for this proposed community.

Alternative means of transportation can facilitate access to the site and surrounding area and reduce the number of automobiles. A network of connections between surrounding communities and the site can improve access. Clearly defined public streets and spaces can balance the visitors and the residents of the community.

Another hub in the area is needed to provide for recreation, commercial, spiritual, and civic needs. The public spheres of life have been squeezed and taxed by the over-accumulation of housing developments. These public amenities are necessary to complement the increased population and development.

Current demographics of the region include a range of middle-class to wealthy families as well as retired couples. These are the classes this new town must accommodate while seeking to incorporate white-collar and blue-collar families as well. Many industries and office jobs are available in the nearby cities of Niantic, Saybrook, Middleton, and New London.

5.1.3 – Site:

The site has unique natural features, such as lakes, beaches, and woods that have been incorporated into the plan. Topography is a design generator and major factor in laying out street patterns, block patterns, building types, and public amenities.

Currently, the site is divided into three areas: an area for future expansion of Old Lyme Shores; an area that is privately owned; and an area that is designated as a nature preserve.

The area for future expansion is not planned; it is only designated for development. This area needs to have a design intent and purpose, a master plan that can serve the future. At the moment, it has no architectural or urban relationship to Old Lyme Shores; it fails to maintain existing patterns, fabric, scale, and character; and it is designed to be a mono-functional bedroom community.

The area that is privately owned limits public access, prevents development of any kind, and results in insufficient use of the site. In the last 30 years, there has been no development on the private land and the existing conditions demand renovation.

The nature preserve is a factor. Though the preserve is not officially recognized by the state, it should not be overlooked in any future planning. Watersheds must be preserved and maintained. The flood plane also has an impact on the plan.

5.1.4 – Initial Recommendations:

The town should be its own entity but participate in the larger community of small suburbs and beach towns. It cannot be an extension of the surrounding communities. The new town needs to be a duplication of successful traditional planning practices that connects with its surroundings.

The town should be a suburb of the township of Old Lyme, Connecticut. It must also have some form of governing body and system to ensure success, promote self-management, and advocate communal cooperation.

5.2 – Design Problems:

The initial design problems are theoretical, functional, and aesthetic in nature. Problems are listed as numbered points. Each problem is preceded by a letter, or set of letters, indicating the nature of the problem: (T) for theoretical, (F) for functional, (A) for aesthetic.

The problems have been broken down into two categories: ideological problems and site-related problems.

5.2.1 – Ideological Problems:

1. (T) Some current suburban development is planned using fallacious ideology.
2. (T) The idea of the city and its type are often denied in contemporary planning.
3. (T, F, & A) New beachside communities are being developed like suburban cul-de-sacs and featureless bedroom communities that are not site dependent.
4. (T, F, & A) There is no recognizable urban condition in contemporary developments.
5. (T, F, & A) Developments are designed around the automobile.
6. (T & F) Developments fail to provide for all spheres of life: spiritual, social, economic, political, etc. They are mono-functional.
7. (T, F, & A) The traditional city is not considered to be a resource to aid urban and architectural design.

5.2.2 – Site-related Problems:

1. (T, F, & A) Contemporary planning, development, and architecture in the immediate region are resulting in bland, off-the-shelf, bedroom communities that lack identity and lack harmonious architectural character.
2. (T & A) Contemporary developments in the region fail to relate to the history, tradition, and context of New England.
3. (F) Contemporary developments in the region are not comprehensive plans for developing sufficient communities.

4. (T, F, & A) The homes of these communities are closed-off from each other, the rest of the community, and the region.
5. (T & F) Public spaces, civic and community spaces, and public amenities do not exist in the contemporary developments of the region or at the site.
6. (F) The site has a poor relationship to the water.
7. (F & A) The site does not capture the value of its context, i.e. development on the site does not take advantage of topographic conditions or unique natural features.
8. (T & F) The site does not have a comprehensive plan for development.

5.3 – Design Goals:

The initial design goals are theoretical, functional, and aesthetic in nature. Goals are listed as numbered points. Each goal is preceded by a letter, or set of letters, indicating the nature of the problem: (T) for theoretical, (F) for functional, (A) for aesthetic. The goals have been broken down into two categories: ideological goals and design goals.

5.3.1 – Ideological Goals:

1. (T) To preserve the idea of the city and its typology.
2. (T & A) To advocate a return to traditional town planning.
3. (T & A) To address the issue of sustainability through the idea of the traditional city.

4. (T & F) To prove planning ideology resulting in poor urban and architectural conditions is not the only option.
5. (T) To prove typology is essential in understanding and designing the city.
6. (T) To prove that history and theory of urban design are useful and necessary at all scales of design.
7. (T) To prove classical and traditional paradigms or urbanism and architecture are viable solutions for the 21st century.
8. (T & A) To critique some modern planning ideology by proposing alternatives.
9. (T & A) To preserve the unique urban and architectural typologies and character of New England.
10. (T & F) To advocate design that revolves around the pedestrian.

5.3.2 – Design Goals:

1. (T & F) To design a comprehensive master plan for a seaside town along the coast of Connecticut that uses the timeless paradigms of the traditional city as tools for design.
2. (T, F, & A) To build on the uniqueness of the site and the region.
3. (T & A) To produce a town of architectural and urban harmony.
4. (F) To meet contemporary planning demands by satisfying the high demand for housing in the area.
5. (F) To provide for the daily, weekly, and monthly wants and needs of a small community.

6. (T & F) To provide the opportunity for living and working in the same place.
7. (T, F, & A) To design and articulate critical typologies suitable to and necessary for the town.
8. (F) To improve access to the site and its amenities.
9. (A) To provide an intense urban condition juxtaposed on the unique natural landscape.
10. (F & A) To produce a graphic urban and architectural code.

CHAPTER 6: DESIGN APPROACH

6.1 – Conceptual Design Strategies:

Conceptual design for this thesis began with diagramming a wide range of ideas – functional and formal in nature. The diagrams are not solutions to any design problem; rather they are typological proposals for beginning the design process. (See chapter 6, section 1, subsection 1.) These typological proposals are intended to inform design by fleshing out initial ideas.

A primary design generator is the ridgeline in the middle of the site that runs down to Hatchett Point. This ridgeline has great potential and serves to order the development of the plan. It also provides the opportunity to create clear connections between Shore Road and the arrival point at the water.

A railroad station is a possible consideration, not just for the site, but also for the regional community. Given that the Penn Central Railroad Line runs along the northern edge of the site connecting New York and Boston, a train station could capture the access potential to the beach communities. Currently, the Shore Line East commuter train route runs from New Haven up the coast of Connecticut to towns like Saybrook.

Water-related functions and types are vital considerations in this project. A marina can serve as a city node, provide for sailing and cruises, and offer commercial opportunities. The beaches are an amenity that must be enhance and should be related to the other beaches of the surrounding communities.

An important typological consideration is a distinction between a commercial center and a civic center. Both are of the traditional city type, and both are essential

to this project. The commercial center provides a secular space that revolves around economy, leisure, and entertainment. The civic center provides a space for both government and spiritual institutions. Further development of this idea is in the use of Greek types; the port, the agora, and the acropolis. These types fit the requirements of the site and the design intent.

The town green is an urban typology found throughout New England. This typology is essential in the design because it makes connections to historical and physical context.

Connections ought to be reinforced or created between existing features. The new town can connect Old Lyme Shores and Point O'Woods. The street and block patterns can connect the town with its unique site.

Other conceptual design diagrams deal with proposed functional uses, proposed street patterns, edge and center conditions, means of access, view corridors and opportunities, and urban and architectural types.

Three initial approaches to the street pattern design problem were the medieval type, the Renaissance type, and the grid type. These types reflect possible solutions to the street network and block pattern on the site. Again, these are typological solutions that inform and increase the understanding of the site and its capacity, project scale, geometry, urban relationships, and formal attributes. Approaching the design problem through these typologies offers immediate insight into specific methods for problem solving as well as predictable three-dimensional results.

The conceptual design diagrams are shown in the gallery of plates (Plates 70 - 78) at the end of this chapter. The captions provide the necessary explanation for each image.

6.1.1 – Typological Design Method:

Most contemporary planning consists of fitting a functional requirement. Certain goals are set forth such as: density, number of units, type of units, floor-area ratio, etc. with the intention of producing the most return on the initial investment. Formal and technological aspects are disregarded. Social and cultural conditions are ignored. Architecture needs to be a consideration of all these. The solution does not simply come from fitting functional needs; it demands multiple levels of investigation, exploration, testing, and research of formal, functional, technological, aesthetic, historical, cultural, and social conditions. I contend design that only seeks to satisfy functional goals by systematic means is insufficient. This method does not address social, cultural, aesthetic, or political conditions, all of which are necessary components of the built environment.

Typological Design Method takes into consideration these aspects of the built environment. It is also the method used in this thesis, a method I believe to be the most comprehensive, the most fruitful, and the most successful at all levels of design. It also supports the assertion that typology is essential in understanding and designing the city.

This design process has been illuminated by Guilio Carlo Argan, Ernesto Rogers, and Rafael Moneo, with its roots in the writings of Quatremere de Quincy

and his discussion of type.[16] Quatremere stated that type serves as the rule for the model. Design begins by selecting a type, based on precedents, that seems to best fit what is required by the specific design problem.[17] This is the process used in this thesis – the Traditional City Type is the rule for the model. Further, the precedents for this project are traditional New England types because they appropriately fit the requirements of the specific design problem.

This design process continues by taking the initial type and adapting it to the specific conditions. These specific conditions include but are not limited to: site context, functional requirements, formal arrangements, technological construction methods, social and cultural conditions, etc. The important distinction is that the type has inherent characteristics and conditional characteristics. The conditional characteristics can freely change or remain the same to suit the specific project. The inherent characteristics, however, cannot change. They are the rules for the model, the commonalities that access the type.

6.2 – Alternative Parti Analyses and Conceptual Designs:

This section presents three alternative design proposals that are more concrete than the conceptual design diagrams. These alternatives illustrate a range of site planning strategies at various scales including: general town plans with major public spaces established and possible commercial centers; alternative growth patterns with complimentary spaces and street hierarchy; conceptual street sections and water edge conditions; typological studies investigating traditional types of New England; and

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[16] Francescato, Guido. "The Typological Approach." ARCH 170 Course Website. http://www.arch.umd.edu/Faculty/GFrancescato/Courses/ARCH170. March, 2005.
[17] Younes.

initial design perspectives. These initial ideas are tools for investigation and further design development.

6.2.1 – Three Initial Schemes:

The first scheme utilizes formal geometries and grid patterns generated by the topography and oriented perpendicular to the water. Each of the major public spaces is unique in shape, resulting in different urban experiences and identifiable places that relate to their urban typology. Along the ridgeline runs a grand boulevard down to Hatchett Point. The main town square is sited at the top of the ridgeline. A new arrival point is created at Hatchett Point to take advantage of the views and the projection out into the sound. A port space is created around Little Pond. The town green extends from Big Pond. At the west end of the town is a residential crescent looking out to the water.

The second scheme also utilizes formal geometries and grid patterns. This scheme tends to be more Renaissance in its treatment of blocks and street patterns. The topography as well as view corridors to the water generate the orientation of the streets and blocks. The main road along the ridgeline is developed as a boulevard that connects the two major spaces within the town; the main square at the top of the ridge, and the arrival square near Hatchett Point. The arrival square is contained on all sides as opposed to open as in the first scheme. However, three views to the water are maintained from the arrival point square into the sound. Continuing along the ridge through the threshold, a secondary space is created at the tip of Hatchett Point to terminate the axis. The town green extends from Big Pond up into the site and is

organized in a formal manner. On the west of the town, a large green space extends linearly from a secondary hilltop down to the water.

The third scheme uses a warped grid, changing and contorting to the topography much more than the other two schemes. The organization of the town is not as formal in terms of spatial organization or block patterns. The approach is much more casual. Three public spaces are created along the ridgeline street: one at the top of the ridge, one near the middle, and the third at Hatchett Point. The space at the middle connects the ridge road with the port space. The town green becomes a long, linear space at the edge of Big Pond.

To complement these three schemes, potential growth patterns were also investigated as separate conditions that can be combined or remain distinct. The purpose of these growth investigations is to consider how the town can grow. Two alternatives are available: the town can grow from Shore Road, extending down to the site, or the town can grow from the east edge of Old Lyme Shores. In either case, the growth diagrams illustrate major spaces, connections, street patterns, and hierarchy of streets.

The drawings of these alternative proposals are shown in the gallery of plates (Plates 79 - 82) at the end of this chapter. The captions provide the necessary explanation for each image.

6.2.2 – Conceptual Sections:

The conceptual sections are preliminary investigations into: street scale, dimension, and proportion; build-to lines and property lines; view corridors;

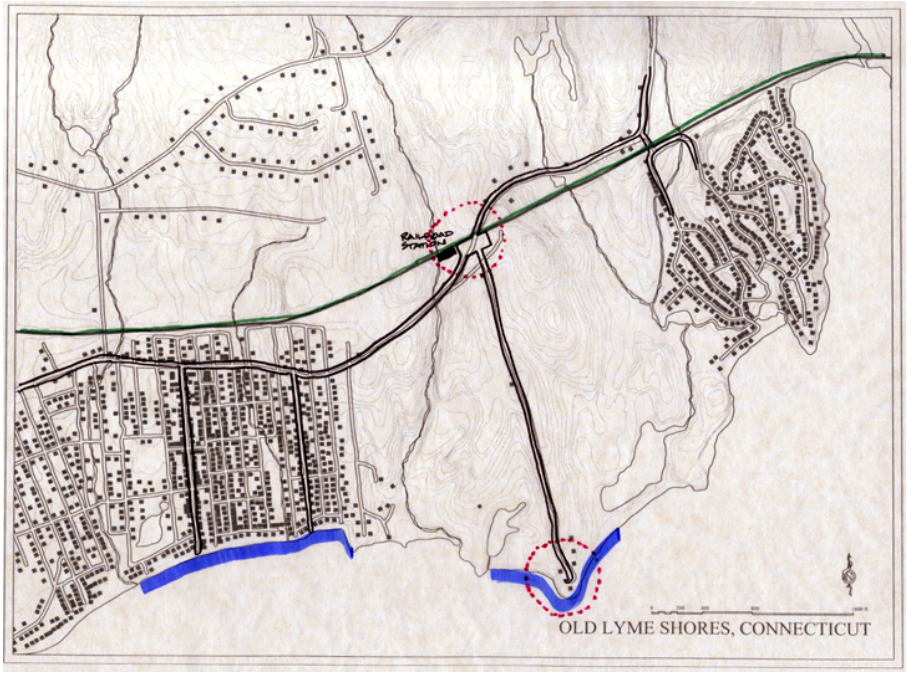
treatment of the ground plane; water edge conditions; and various street types. The diagrams of these sections are shown in the gallery of plates (Plates 83 - 85) at the end of this chapter. The captions provide the necessary explanation for each image.

6.2.3 – Typological Investigations:

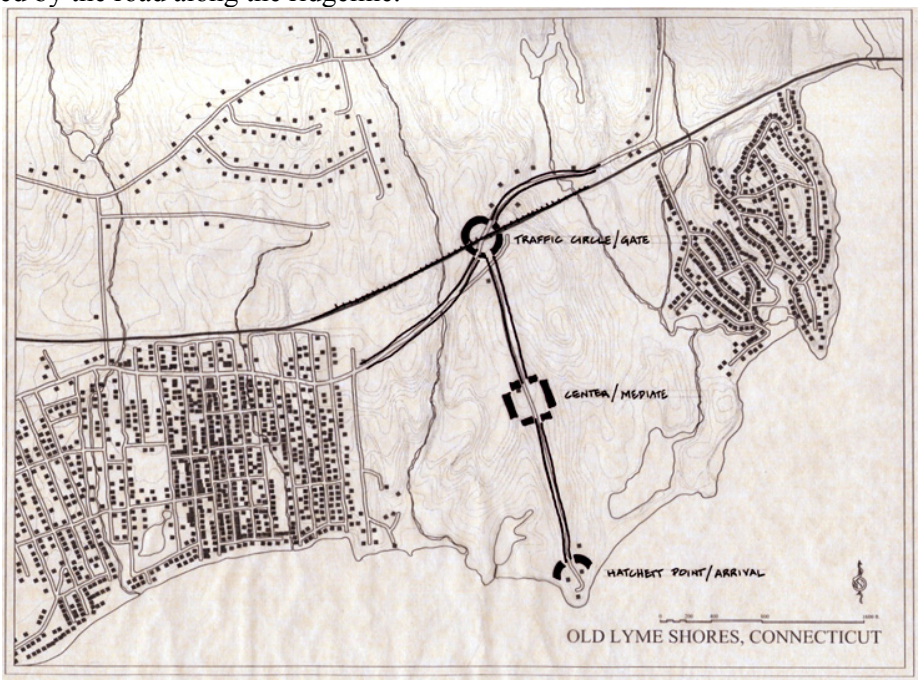
Part of the initial design process was to investigate suitable building typologies relevant to the specific site and the region. Historical and contextual housing types, commercial types, and mixed-use types were all diagramed to study formal, functional, and technological aspects of traditional building. The diagrams also communicate ideas of lot size and proportion; building orientation and location on lot; the relationship between public and private spaces; street wall conditions; and various architectural treatments and parties. The diagrams of these building typologies are shown in the gallery of plates (Plates 86 - 88) at the end of this chapter.

6.2.4 – Initial Design Perspectives and Watercolors:

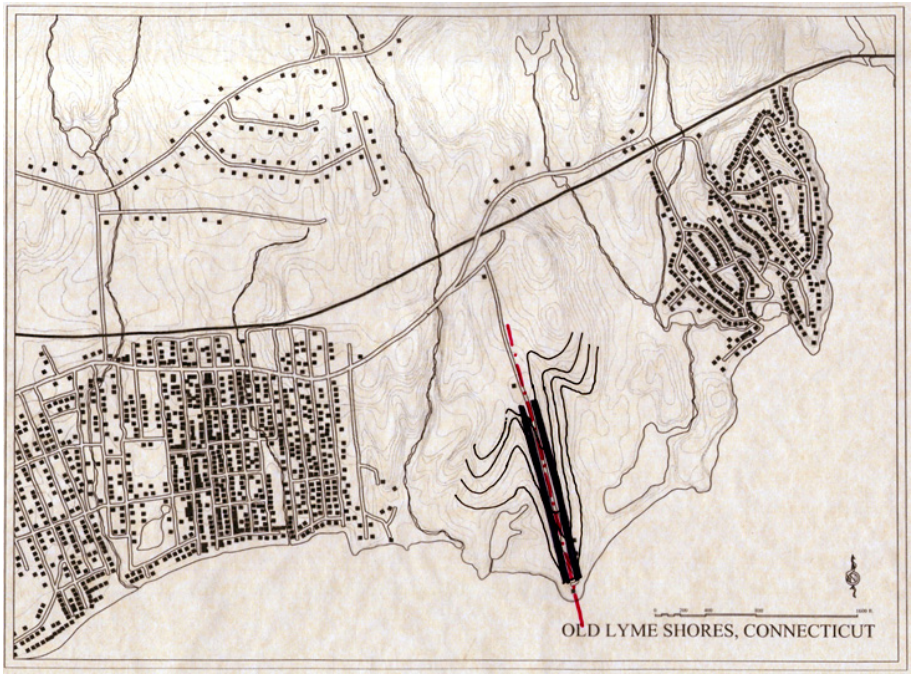
Various sketches and watercolors were produced to jump-start the design process and flesh out ideas. These images embody the urban and architectural direction this thesis has taken. Some of these early images have been preserved, some have been put aside. In either case, these images are some of the most important of the initial design phase. These images are shown in the gallery of plates (Plates 89 - 96) at the end of this chapter.



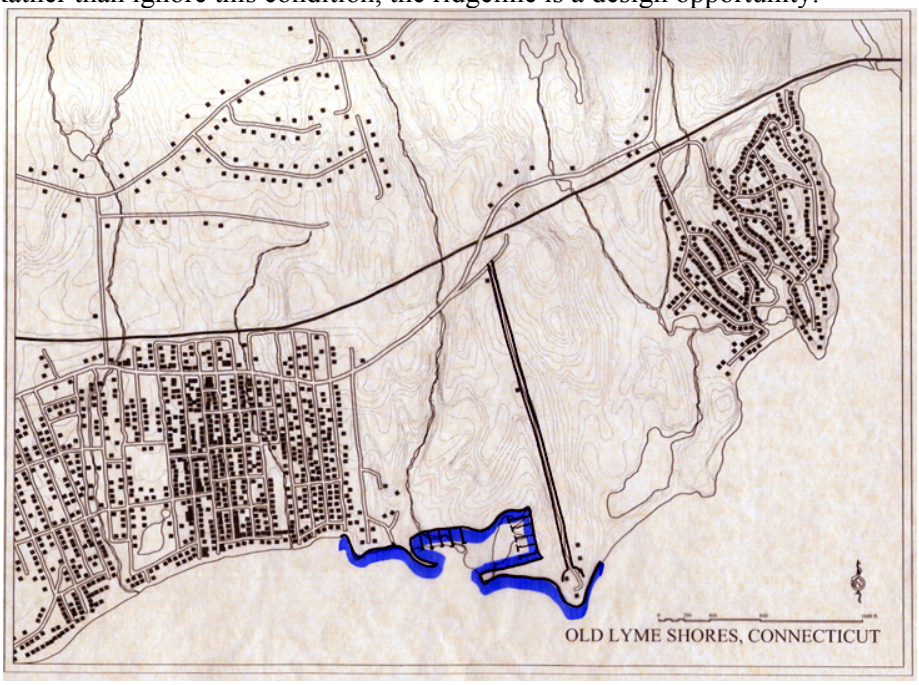
6.1.1
Conceptual Design. A railroad station would improve access to the site and the region. Trains travel daily along the Penn Central Railroad. This line could connect the site to other communities. In this diagram, the railroad station and Hatchett Point establish two centers connected by the road along the ridgeline.



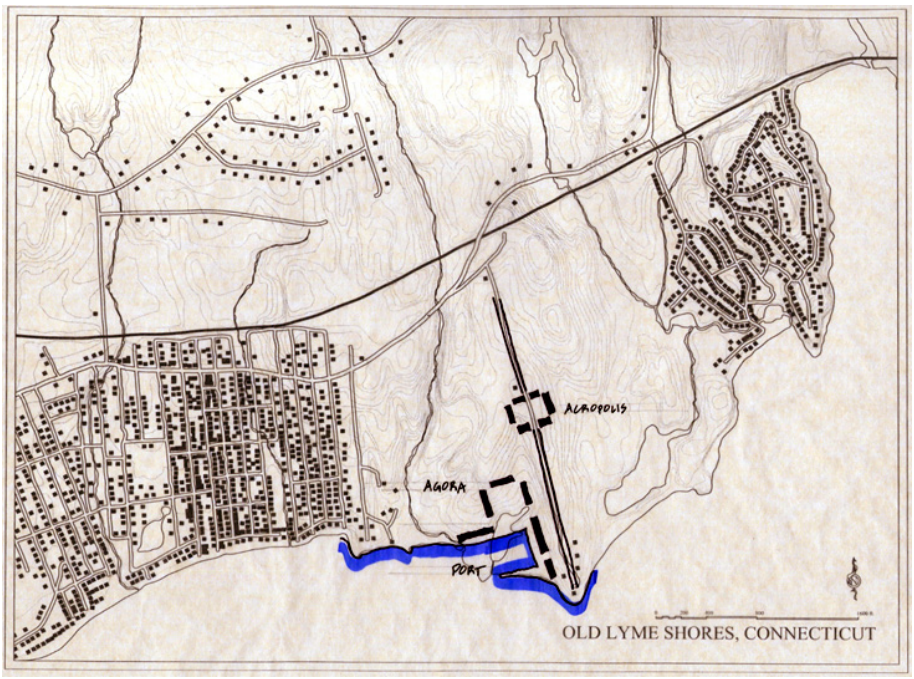
6.1.2
Conceptual Design. Three nodes along the ridge line take advantage of the site conditions and context. The traffic circle at the intersection of Shore Road and the main road to the site, the main town square, and the arrival point at Hatchett Point all create unique urban conditions and opportunities on the site.



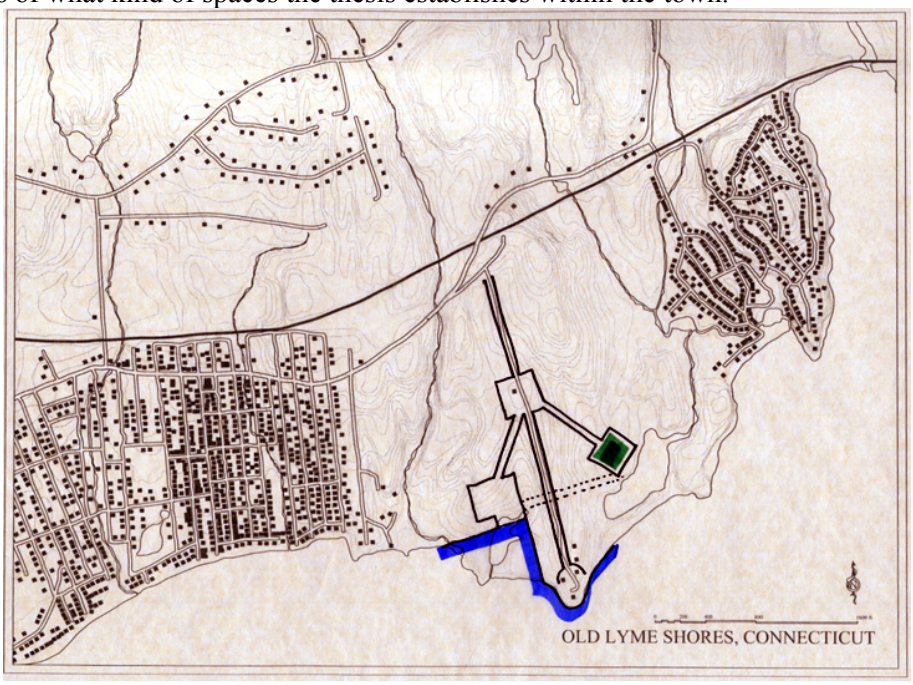
6.1.3
Conceptual Design. The ridgeline is a strong organizing factor in the development of the town. Rather than ignore this condition, the ridgeline is a design opportunity.



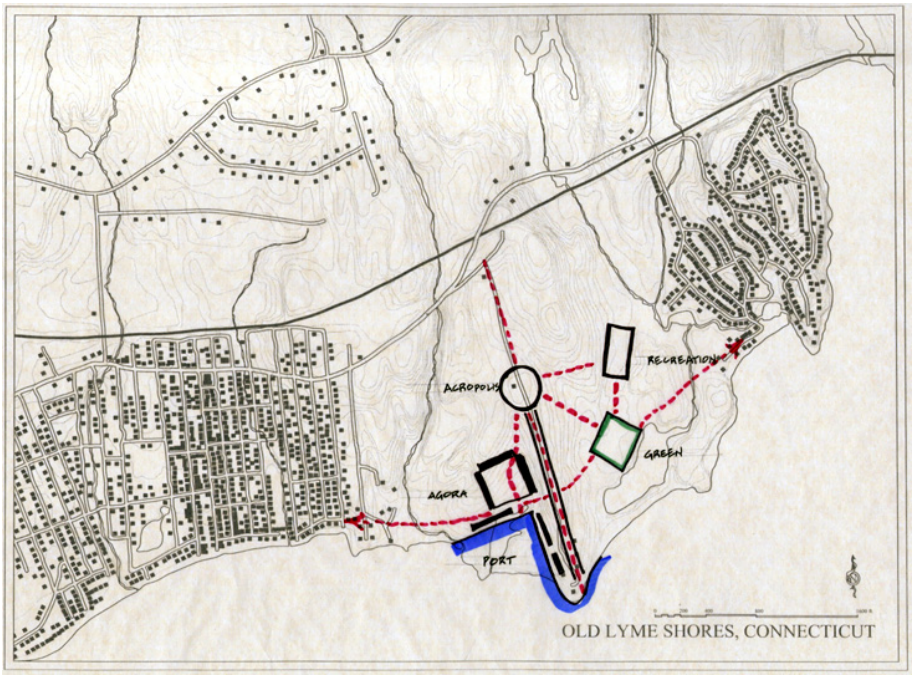
6.1.4
Conceptual Design. A marina provides another node within the town and a secondary reason-for-being. The marina serves as a place for locals to keep watercraft as well as a point of departure for cruises of Long Island Sound. The marina is also a center for the town and the other surround beach communities.



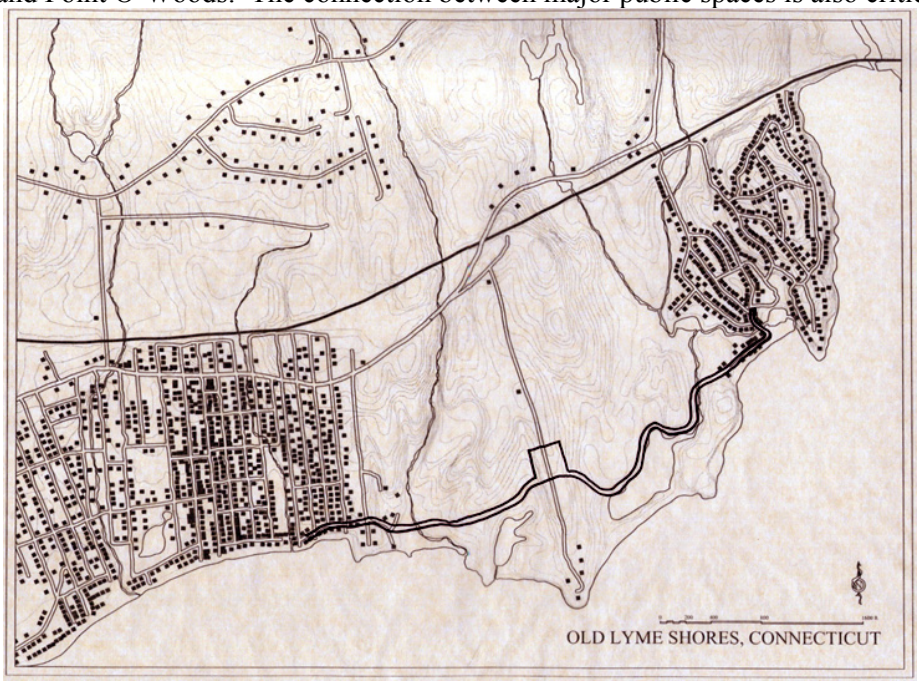
6.1.5
Conceptual Design. The Greek types: port, agora, and acropolis, are three types that are incorporated into the town plan. The Greek types serve as formal, functional, and social concepts of what kind of spaces the thesis establishes within the town.



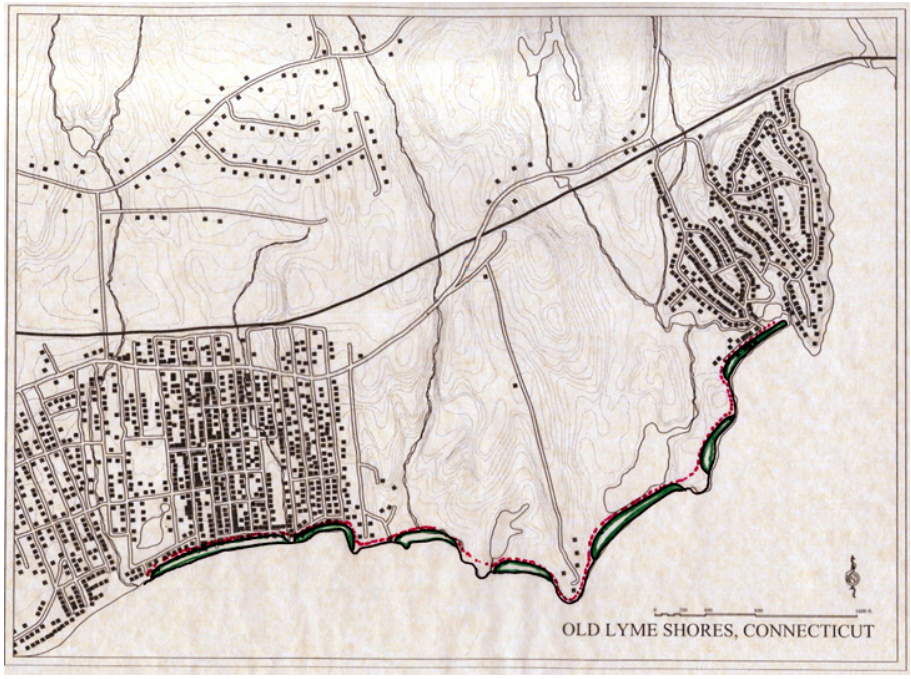
6.1.6
Conceptual Design. The main town square sits atop the ridge line at one of the highest points on the site. The town green and the commercial square are all interconnected in the plan.



6.1.7
Conceptual Design. Connections between the various urban spaces and the neighboring communities. It is important to connect this new town to the surrounding towns of Old Lyme Shores and Point O'Woods. The connection between major public spaces is also critical.

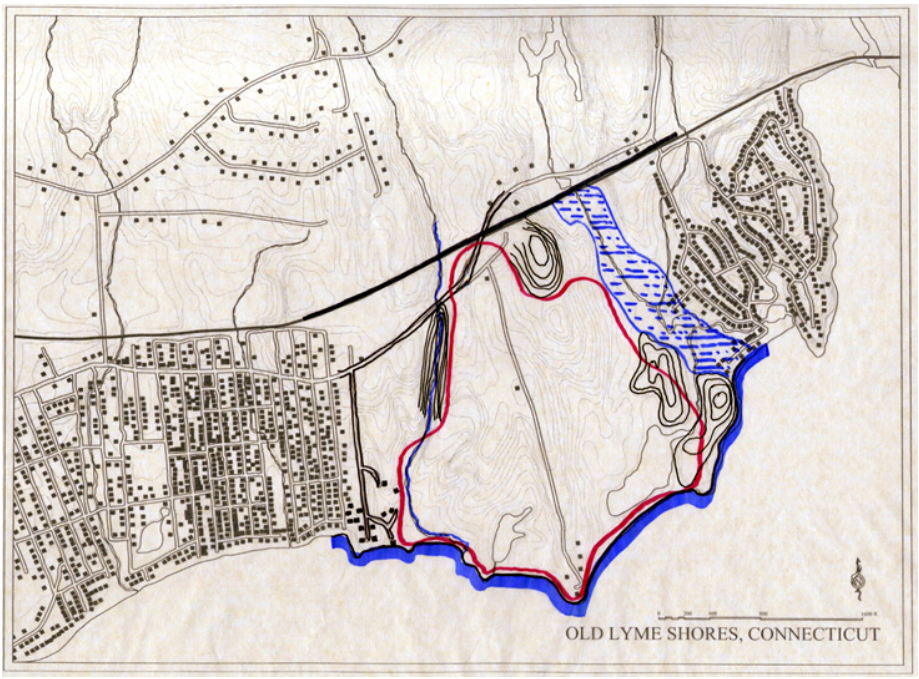


6.1.8
Conceptual Design. Roads from the adjacent communities connect to the major spaces within the new town. The new town not only responds to the water, but it also responds to its neighbors.

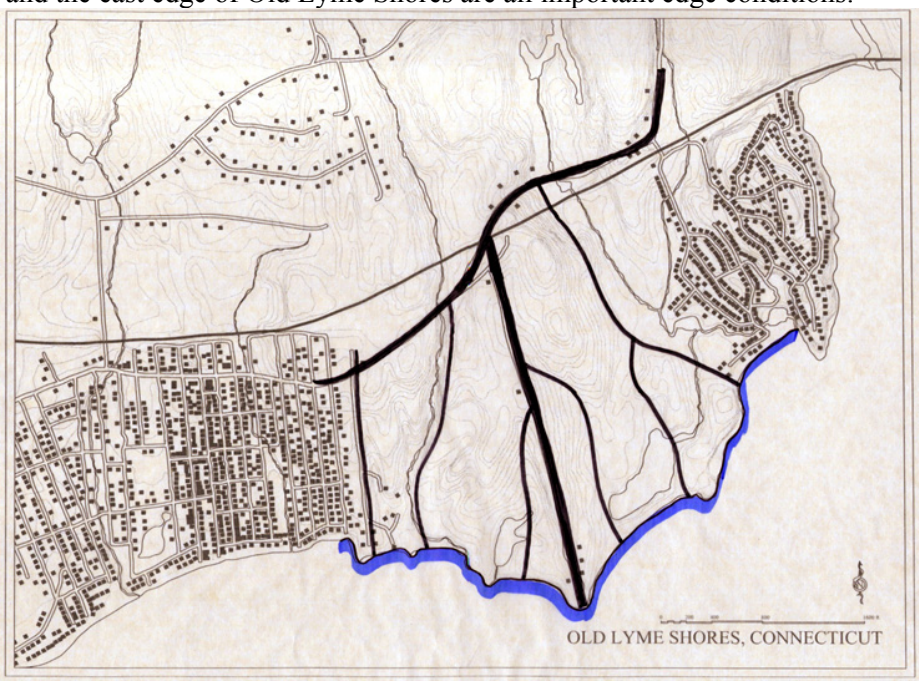


6.1.9
Conceptual Design. The pedestrian experience alone the waterfront is uninterrupted. The existing landscape conditions of beaches and rocky outcroppings help to create unique experiences along the coast. These varied and unique natural conditions are strung together along a pedestrian path.

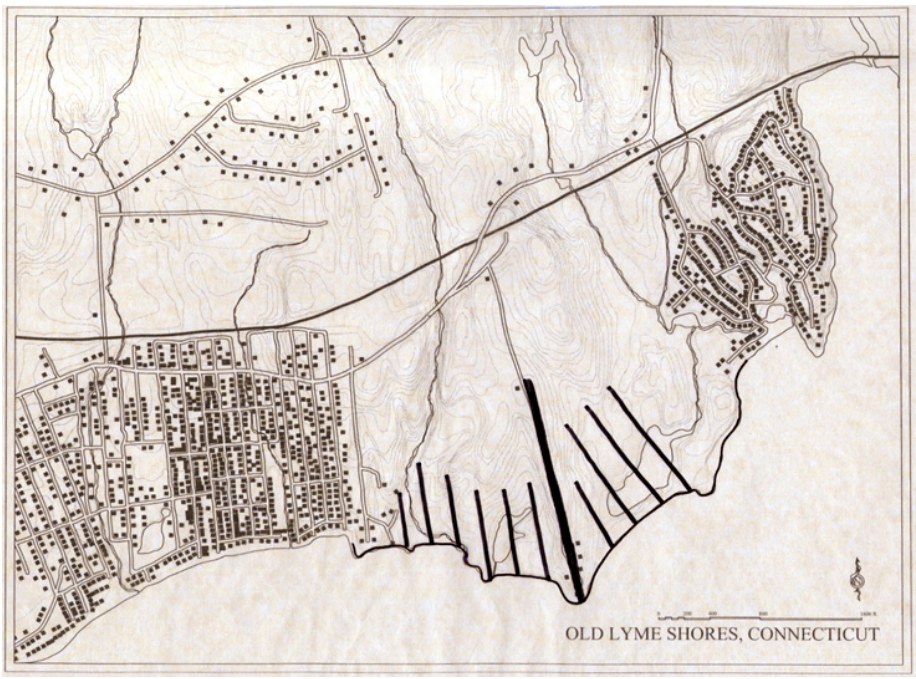
6.1.10
Conceptual Design. High points throughout the site are taken advantage of by carefully planned streets, spaces, and buildings.



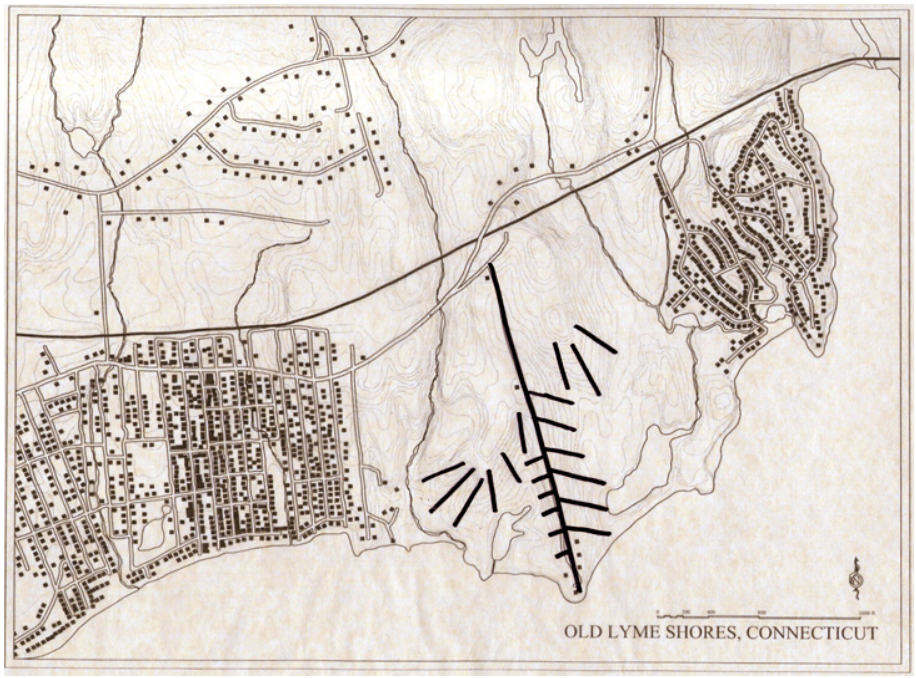
6.1.11
Conceptual Design. Existing natural boundaries are used to help define the limits and edges of the new town rather than allowing sprawl. The salt marshes, the coastline, the hills and valleys, and the east edge of Old Lyme Shores are all important edge conditions.



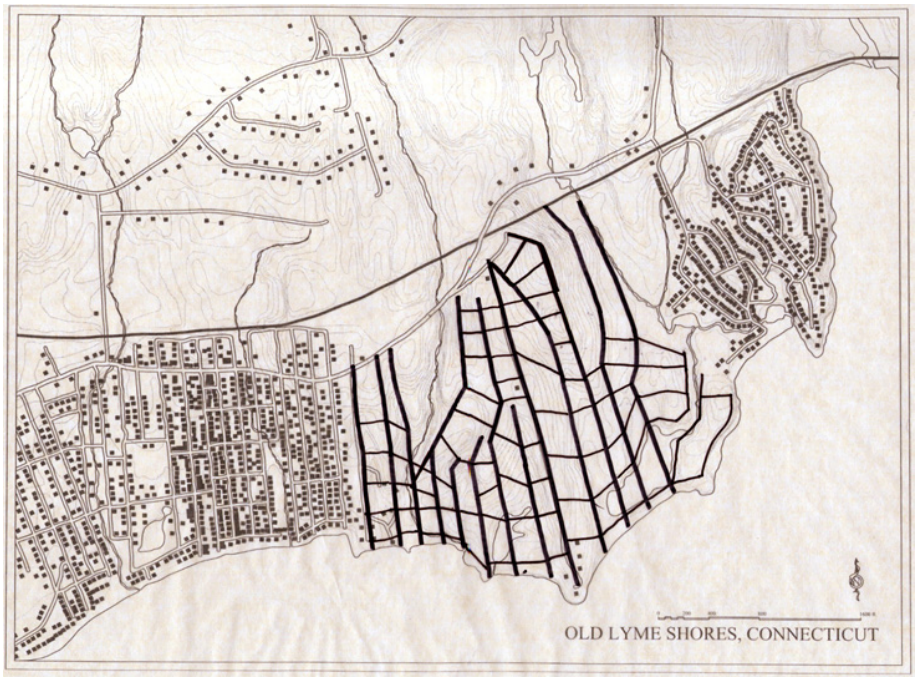
6.1.12
Conceptual Design. Access to the site is accomplished through multiple means. One entry and one exit are not sufficient for this new town plan. The roads into the town are extensions from Shore Road down to the water.



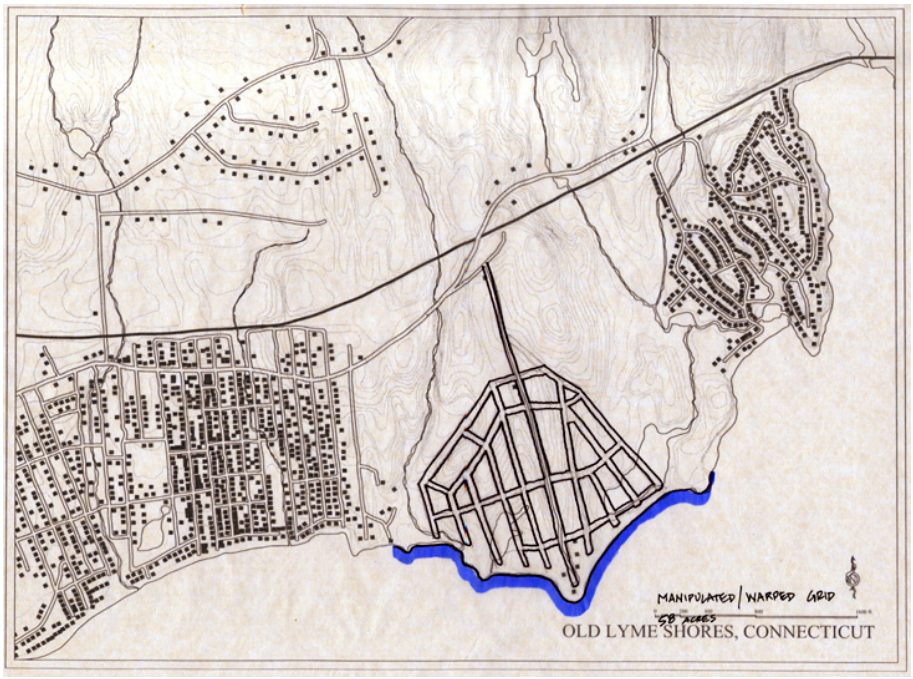
6.1.13
Conceptual Design. Street patterns are generated perpendicular to the water's edge. This design move creates view corridors from several hundred feet inland out to the water. It also improves access to the water and gives all residents of the new town a potential view to Long Island Sound.



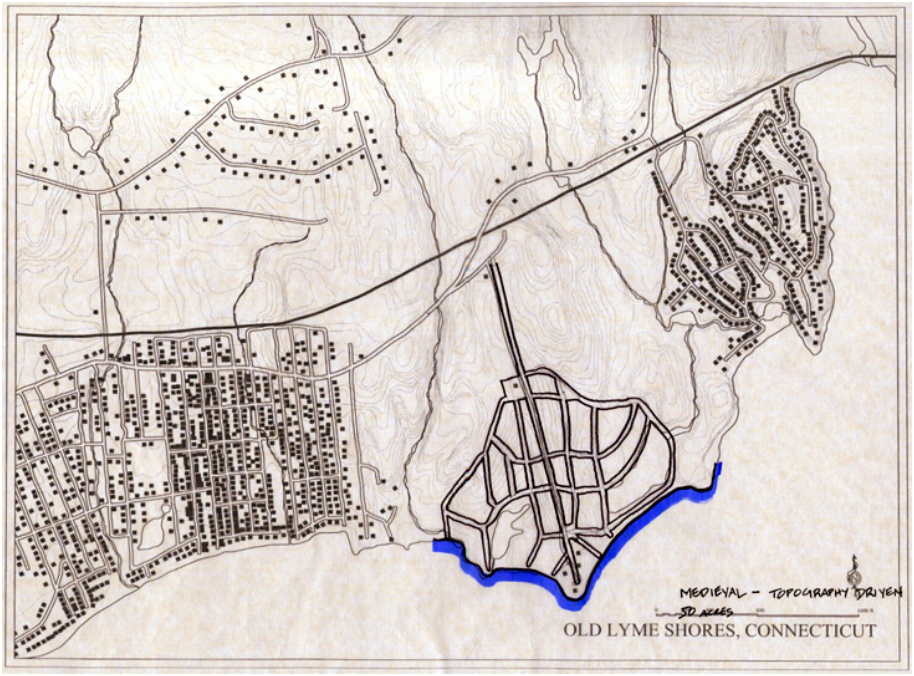
6.1.14
Conceptual Design. Street patterns are also generated by the varied topography on the site. This design choice creates unique urban experiences and takes advantage of existing conditions.



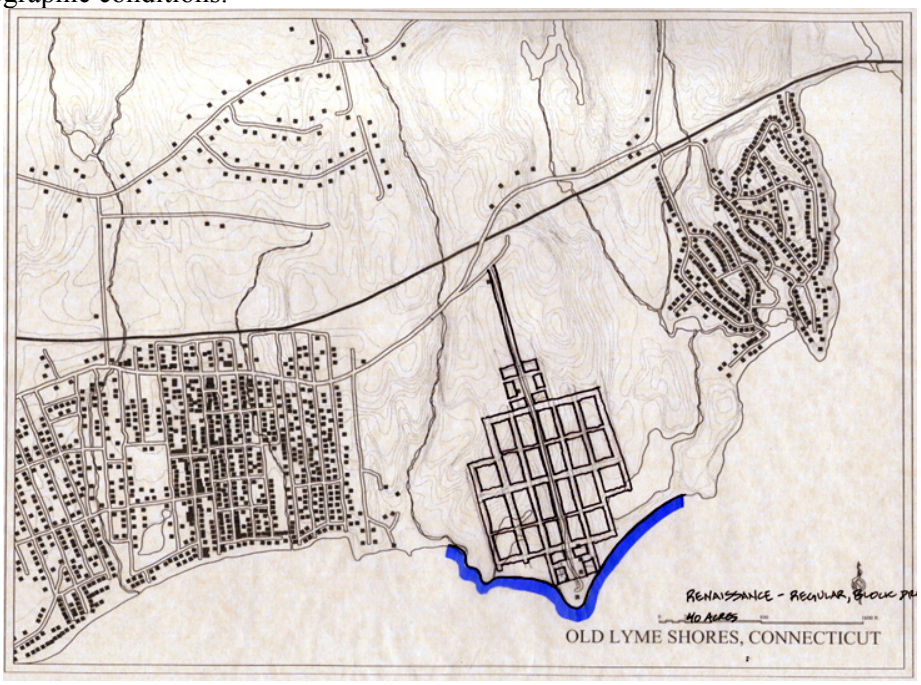
6.1.15
Conceptual Design. Though the site topography affects the street pattern of the new town, a simple warped grid can be employed to maintain view corridors and allow for easy orientation within the new town.



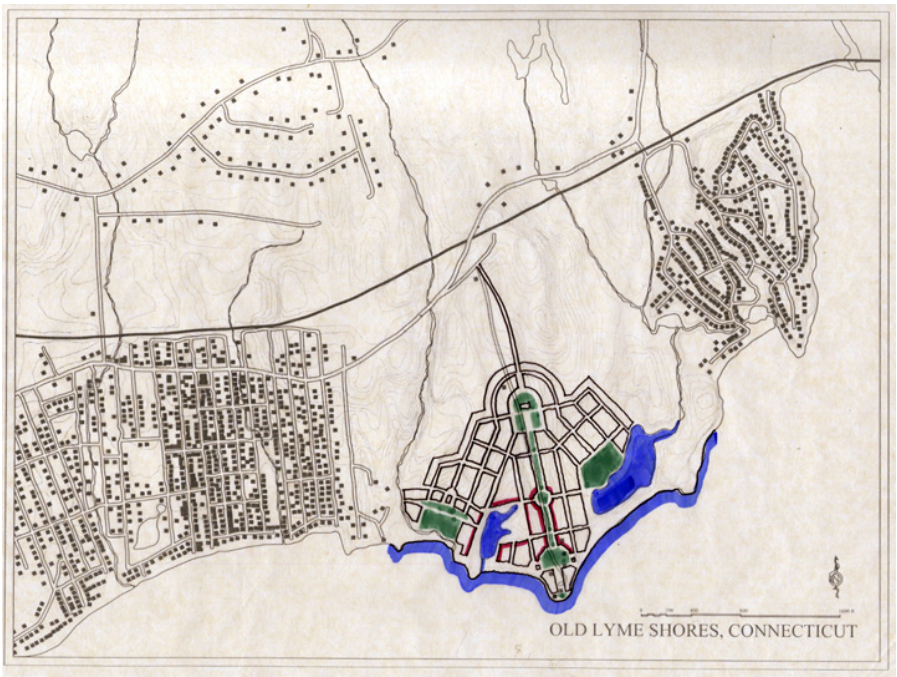
6.1.16
Conceptual Design. A manipulated grid street pattern offers insight into a methodology for resolving the topographic conditions.



6.1.17
Conceptual Design. A medieval street system offers insight into a methodology for resolving the topographic conditions.

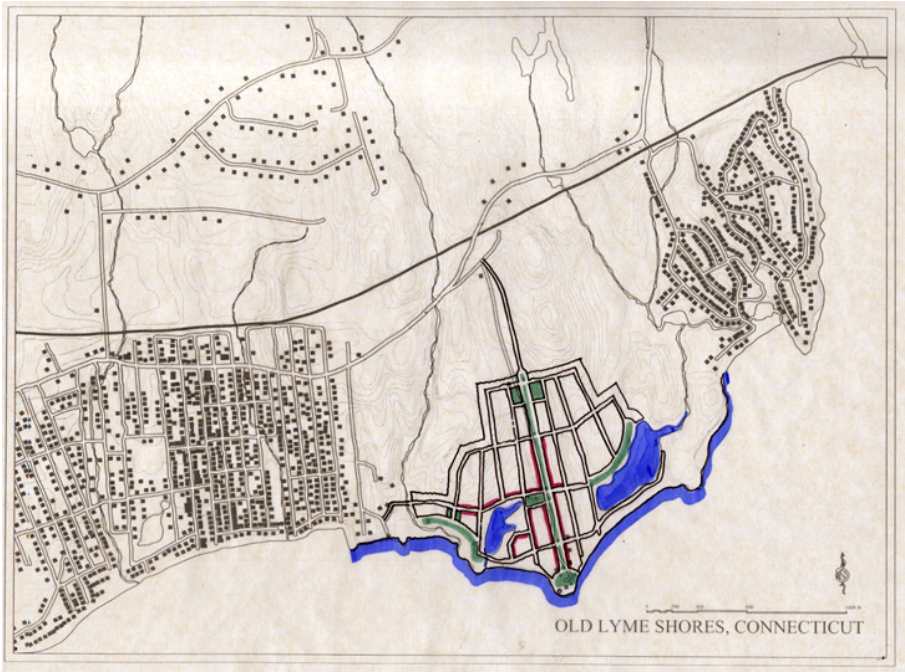


6.1.18
Conceptual Design. A Renaissance grid street system offers insight into a methodology for resolving the topographic conditions.

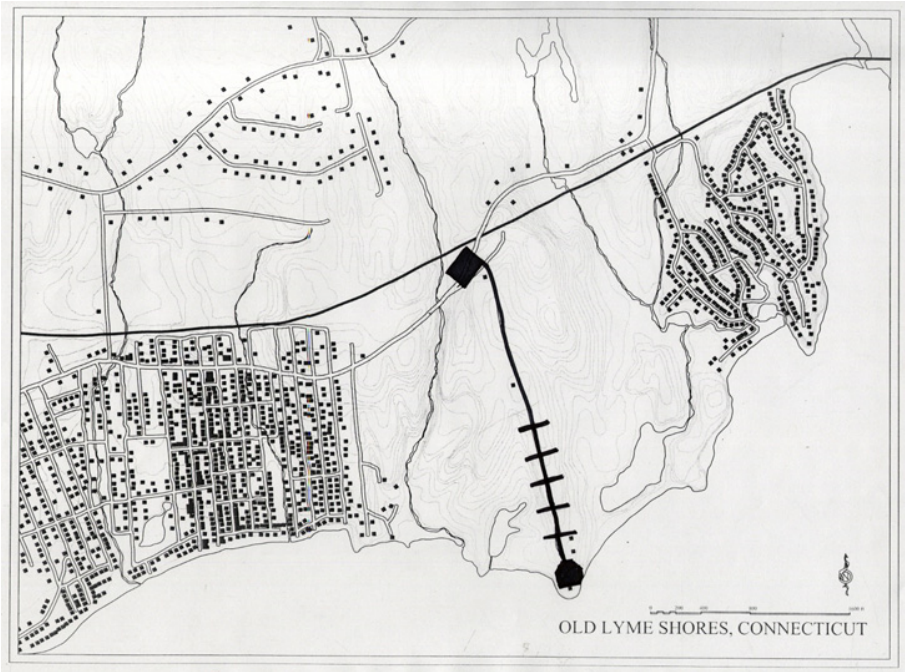


6.2.1.1
Scheme 1. This scheme utilizes formal geometries to create the major public spaces. Rigid street grid patterns are adjusted to accommodate the varied topography while maintaining perpendicular view corridors to the water.

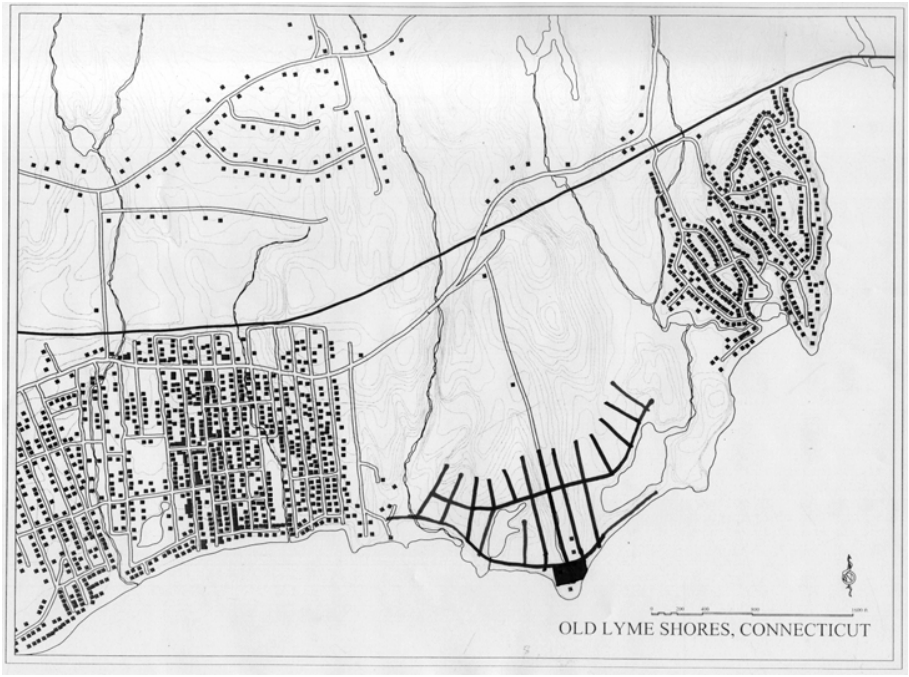
6.2.1.2
Scheme 2. This scheme reflects a slightly more Renaissance planning strategy. The block and street patterns are orthogonal as well as the town green. The primary ridge line street is terminated at both ends by squares. Space planning is orthogonal. The only variation in the street pattern occurs on the slope to the west of the ridge.



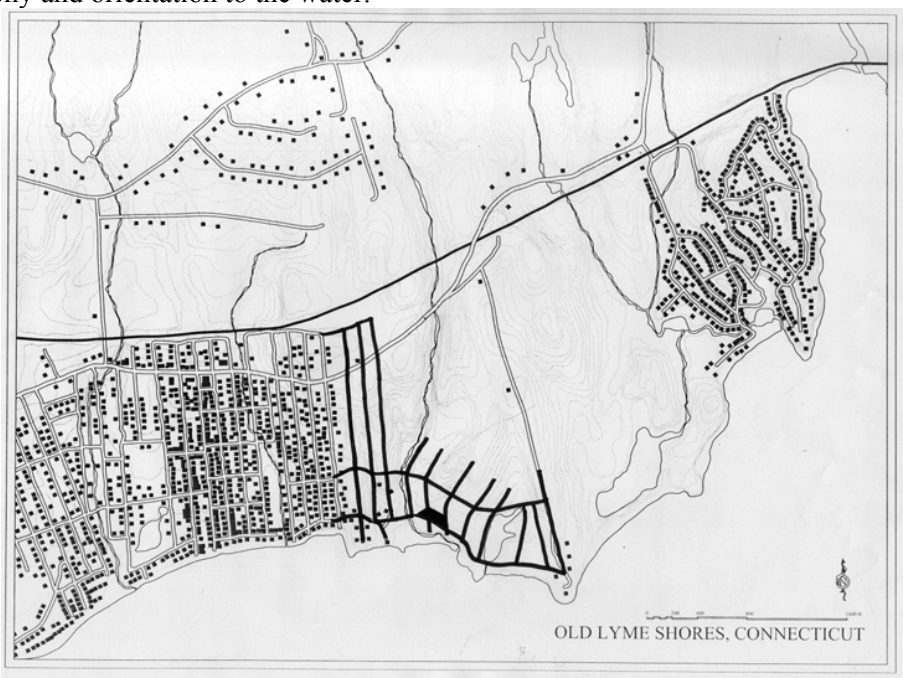
6.2.1.3
Scheme 3. This scheme explores a warped grid street system on the site. This solution is more typical to beach-side town planning as well as historical colonial planning on hilly sites. The organization of the town is more casual in nature. The topography influences the orientation of the streets. View corridors are maintained to the water.



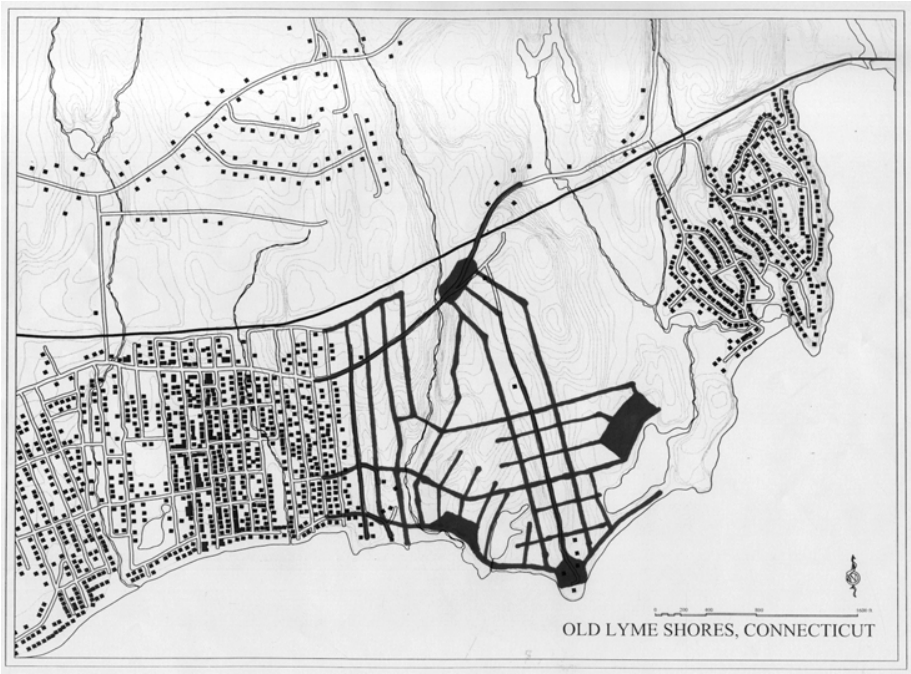
6.2.1.4
Growth Diagram 1. The first potential growth pattern. Two centers are established, one at Shore Road, one at Hatchett Point, and connected by a major street. From the major street, secondary streets are generated.



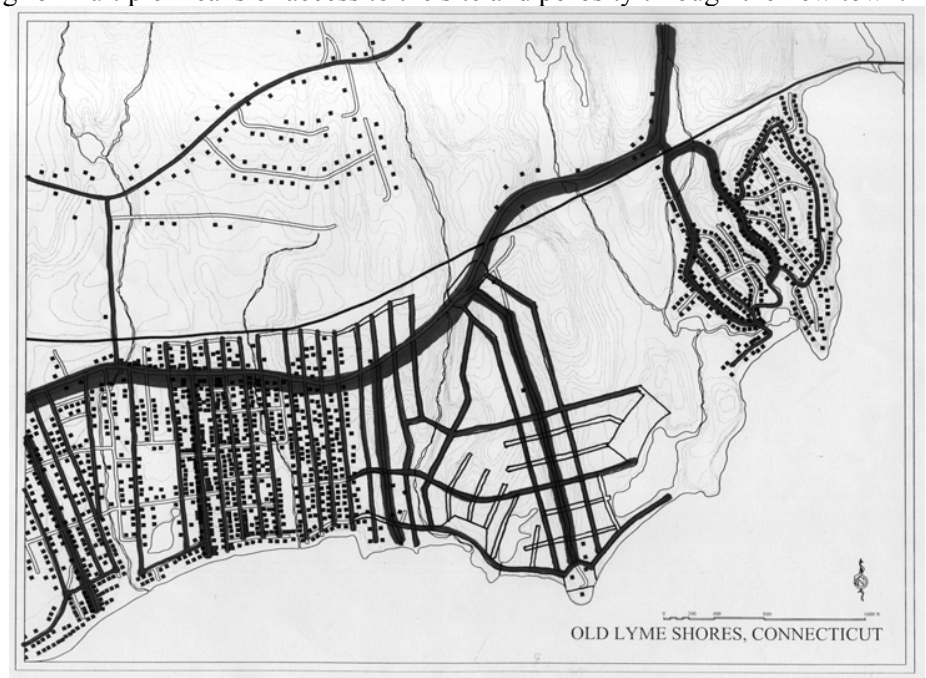
6.2.1.5
Growth Diagram 2. The second potential growth pattern. One center is established at Hatchett Point. The city branches out along the coast with streets generated by the topography and orientation to the water.



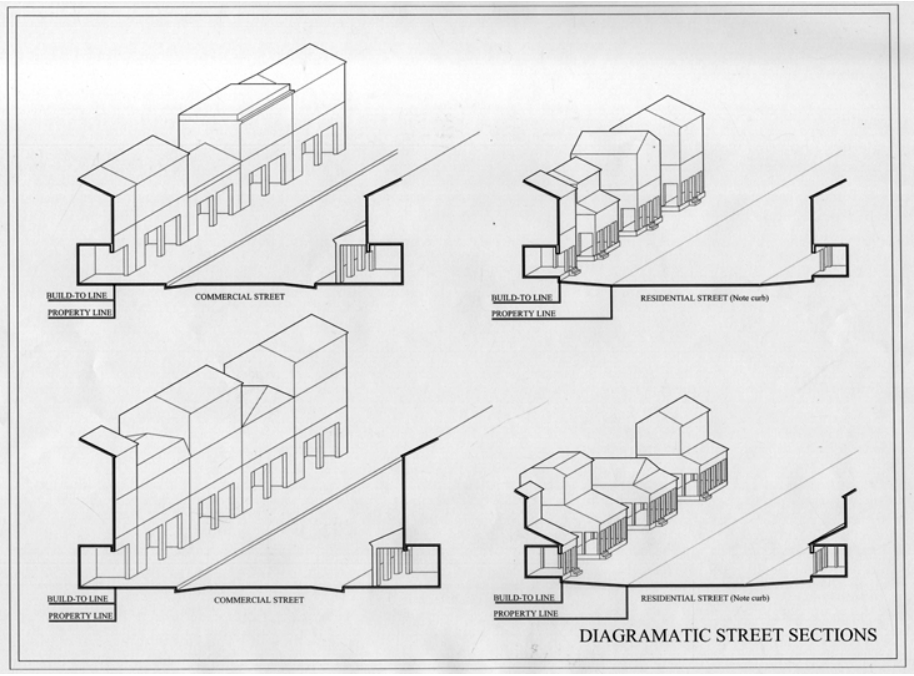
6.2.1.6
Growth Diagram 3. The third potential growth pattern. The tattered east edge of Old Lyme shores is mended by extending the existing street pattern to natural boundaries. Roads are extended from Old Lyme Shores to the ridge line of the site along the coast. A complementary space is then created from this condition with the street pattern of the new town generated by the topography and orientation to the water.



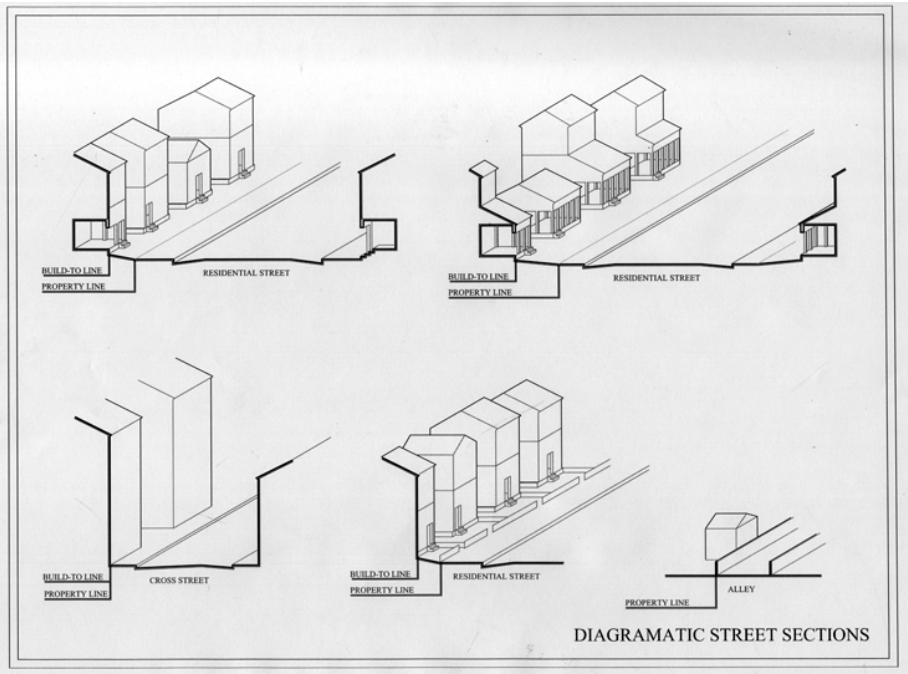
6.2.1.7
Growth Diagram 4. A combination of the first three growth diagrams as well as certain aspects of the three initial schemes. The diagram shows a complex web of streets and spaces allowing for multiple means of access to the site and porosity through the new town.



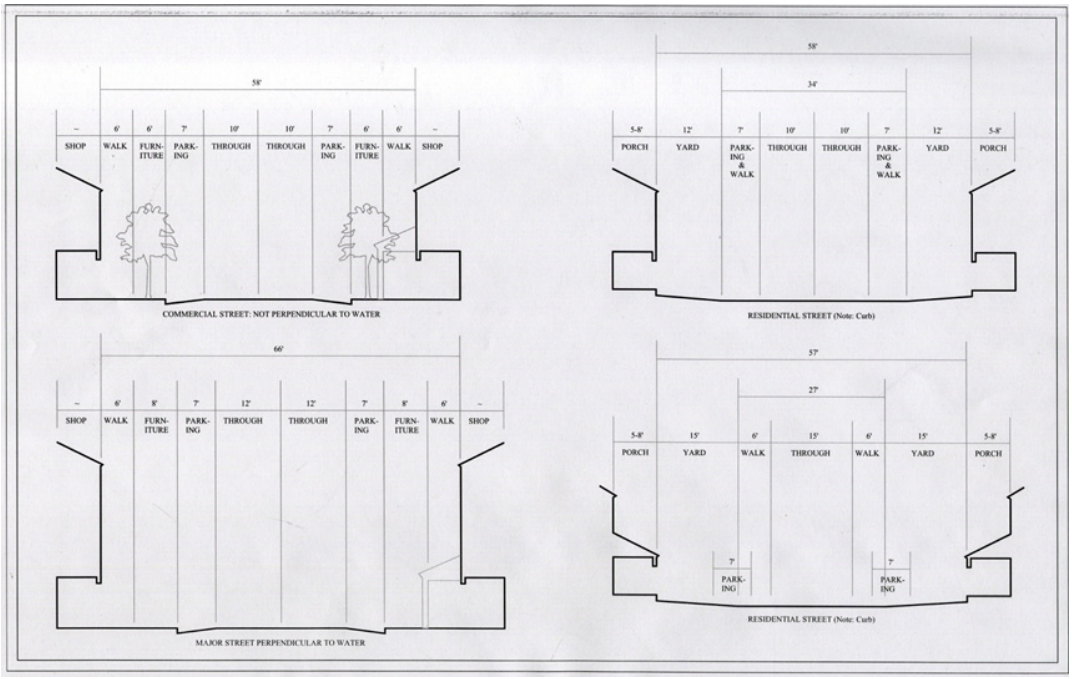
6.2.1.8
Street Hierarchy. Possible street hierarchy of the Growth Diagram 4. Two new main streets are created, one at the east edge of Old Lyme Shores, the second on the ridge line of the site, which create a rhythmic pattern of main streets from Shore Road. Secondary streets permit access to the water and the adjacent community of Old Lyme Shores.



6.2.2.1
Diagrammatic Street Corridors. First of two diagrams investigating different street types as well as build-to lines and property lines. Commercial streets and residential streets are treated similarly. The buildings create an urban wall, maintain uniform dimensions and scales, and are of harmonious architectural character.

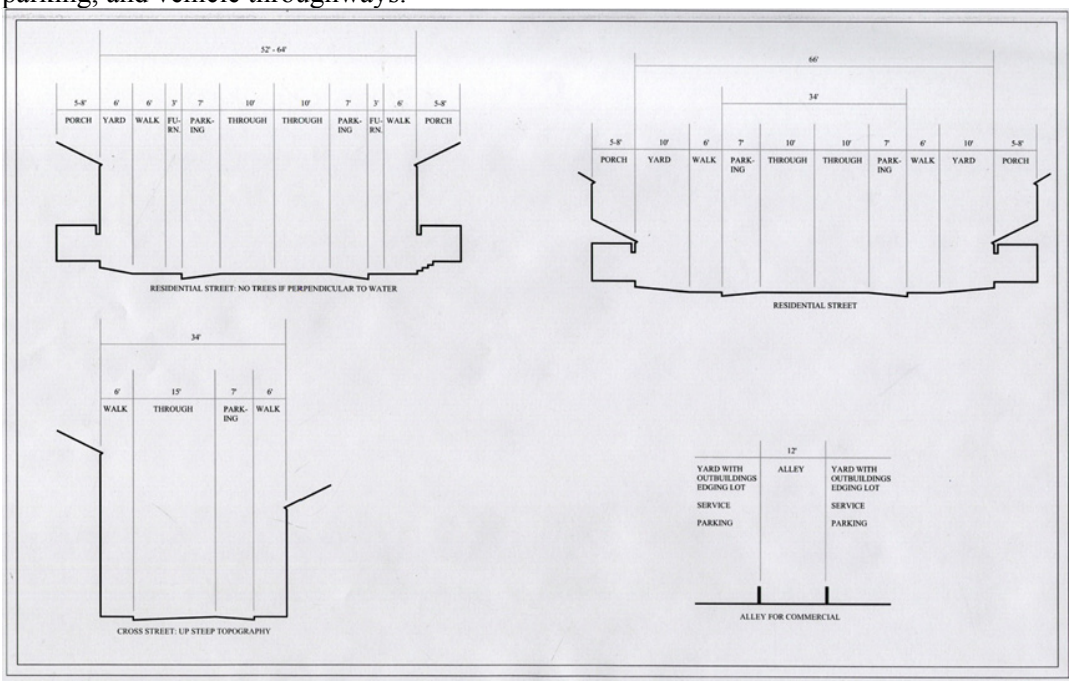


6.2.2.2
Diagrammatic Street Corridors. Second of two diagrams investigating different street types, build-to lines, and property lines. Cross-streets and alleys are street types worth noting. These two diagrams of street corridors investigate the treatment of the ground plane, property edges, street width, and building orientation on lots.



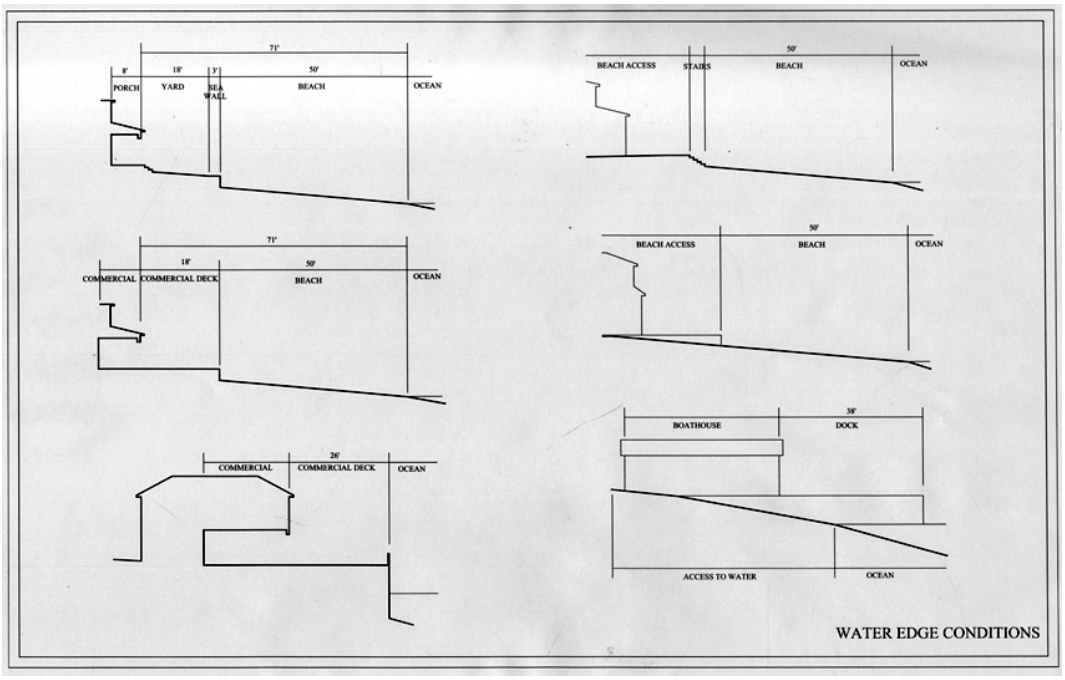
6.2.2.3

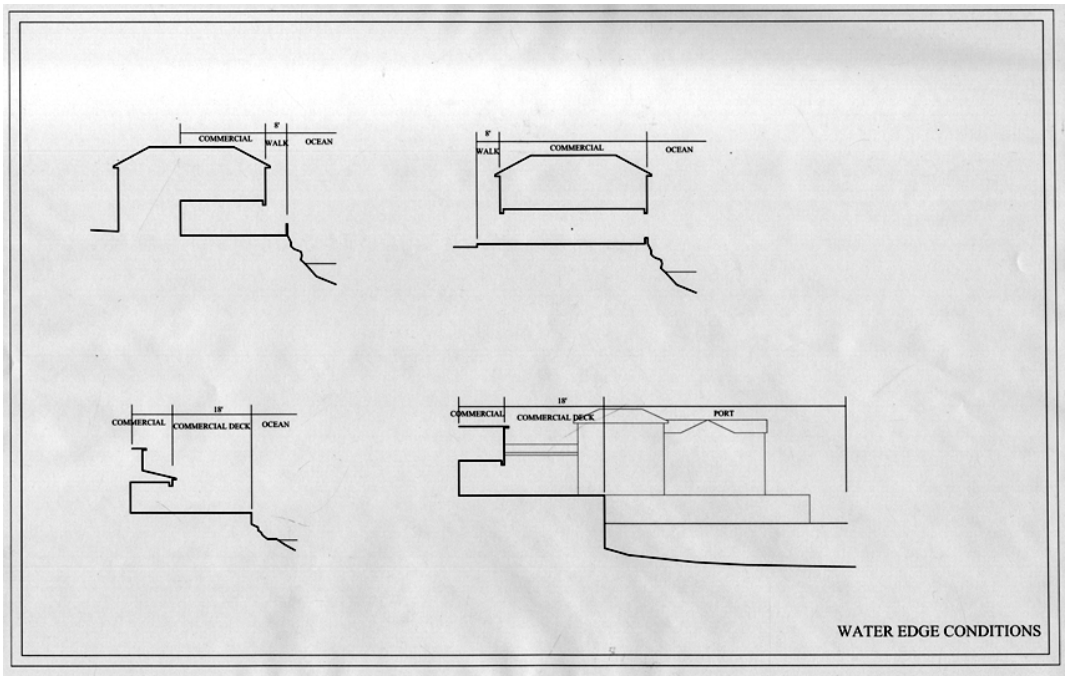
Diagrammatic Street Sections. First of two diagrams that complement the street corridor diagrams. Dimensions are the focus. They deal with sidewalks, green edges, on-street parking, and vehicle throughways.



6.2.2.4

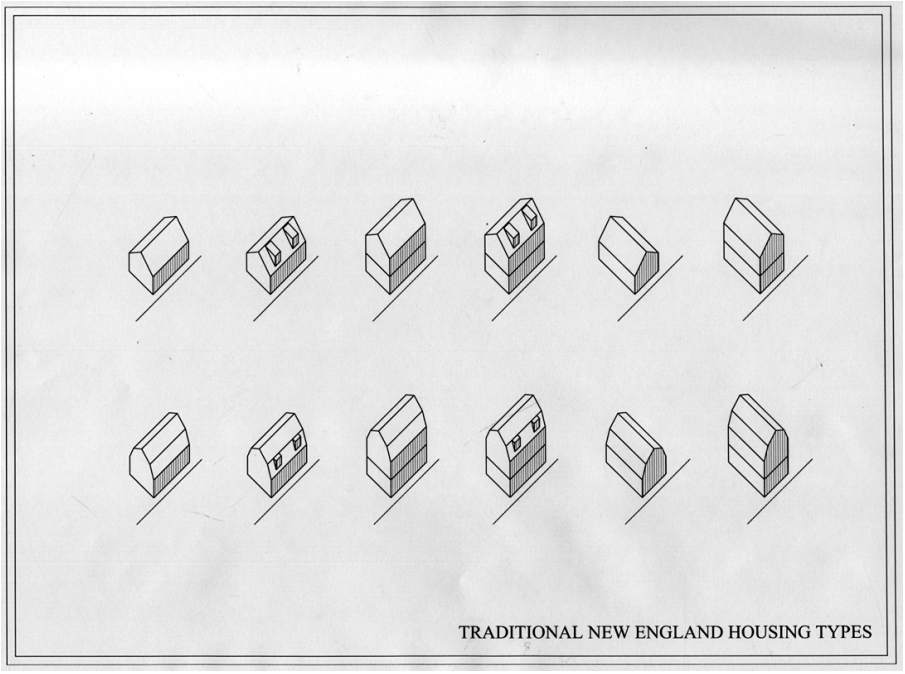
Diagrammatic Street Sections. Second of two diagrams that complement the street corridor diagrams. Multiple street types are necessary. The investigation of dimension determines minimal and maximum sizes for various needs.



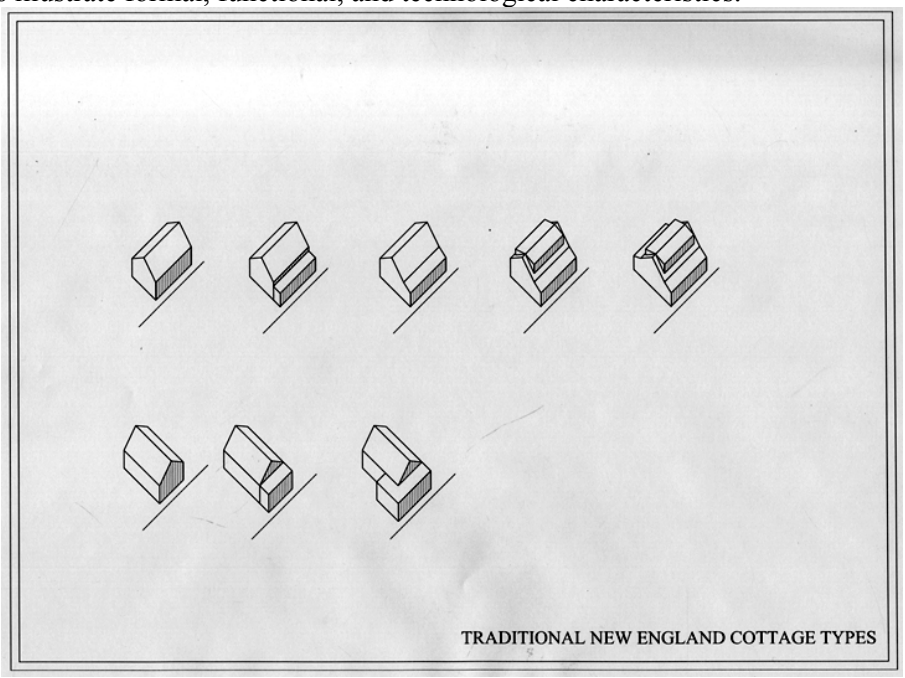


6.2.2.5 and 6.2.2.6

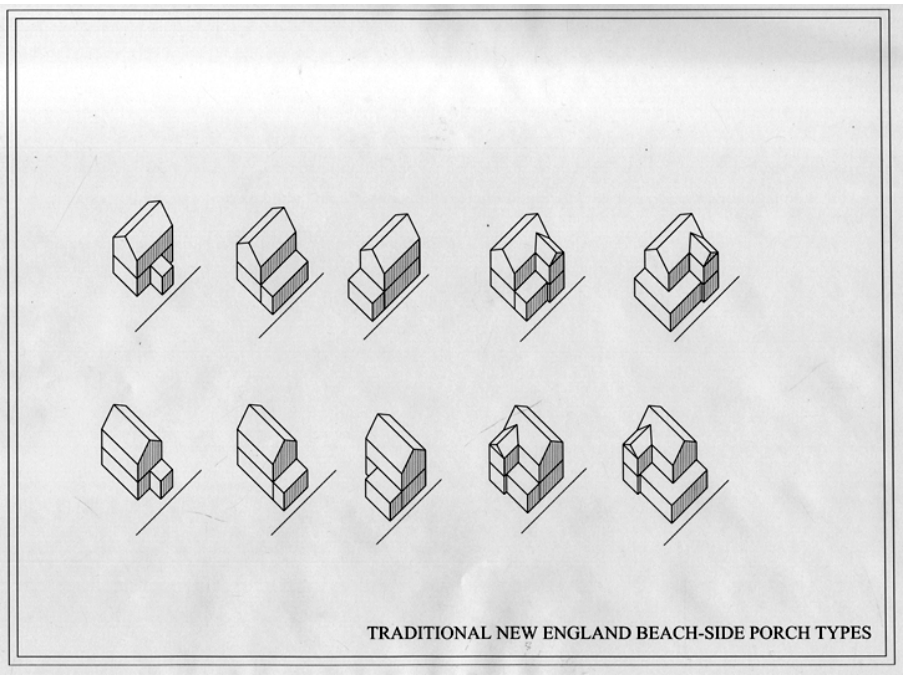
Water Edge Conditions. Potential water edge conditions on the site. The beaches on the site require specific treatment and are suitable to certain functions while the rocky outcroppings require different treatment and are suitable to different functions. Also, man-made water edge conditions are also investigated such as the new marina.



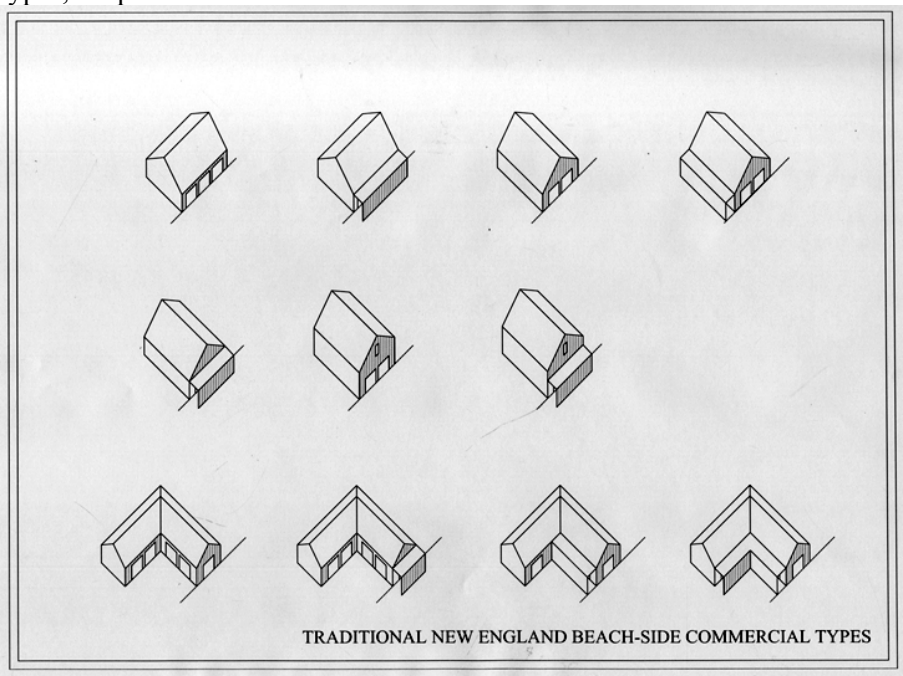
6.2.3.1
Traditional New England Housing Types. Historical types found in the region. These types offer a high degree of variation while maintaining connections to context and history. The diagrams illustrate formal, functional, and technological characteristics.



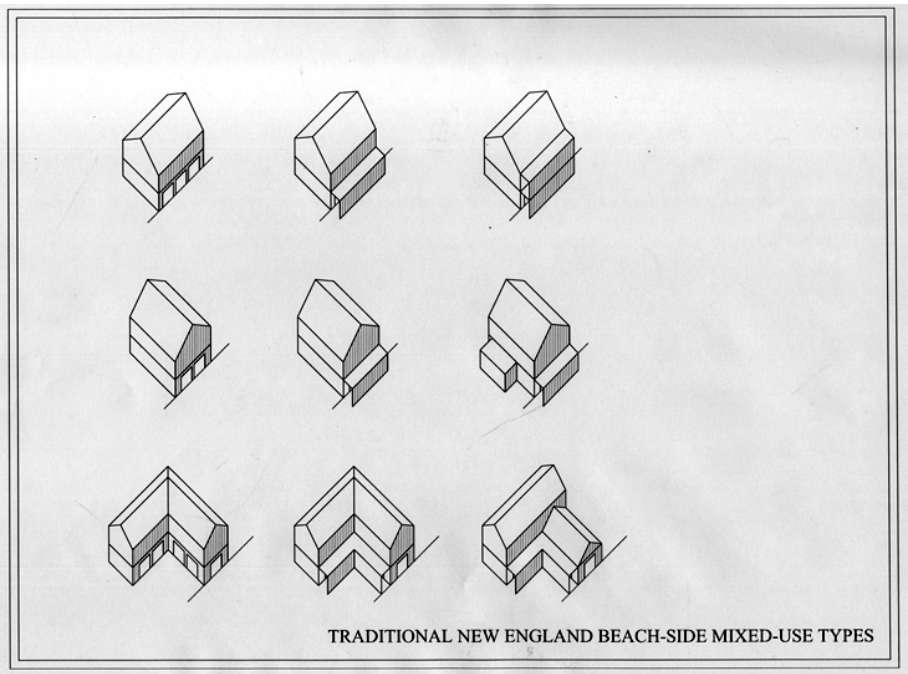
6.2.3.2
Traditional New England Cottage Types. Traditional cottage types found along the coast of Connecticut. The beach communities surrounding the thesis site are made of these various typologies.



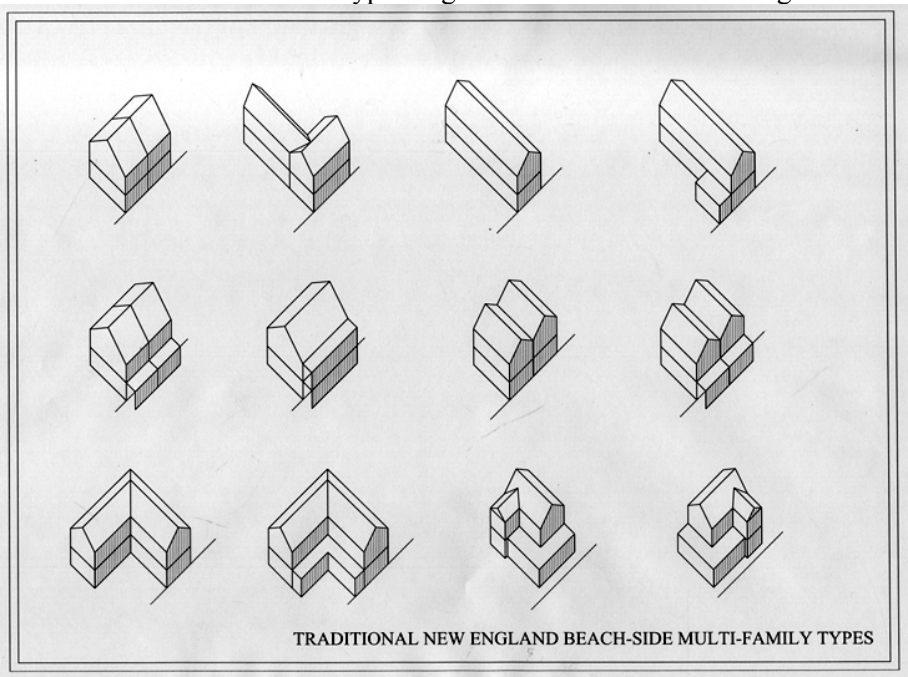
6.2.3.3
Traditional New England Beach-side Porch Types. Various porch types of beach-side houses. These houses are different from the cottage types. A porch is characteristic of all beach-types. However, these porch types are additions to the traditional New England housing types, adapted to meet the conditions of the waterside context.



6.2.3.4
Traditional New England Beach-side Commercial Types. Commercial types traditionally found along the coast of Connecticut. It is worth noting that the commercial types are not set-back from the street, they edge the lot. Colonnades and porches are often used.



6.2.3.5
Traditional New England Beach-side Mixed-use Types. Mixed-use types found in the region. Commercial occupies the ground floor with office space above. In some instances, housing is placed above the commercial. These types edge the street to create an imageable urban wall.

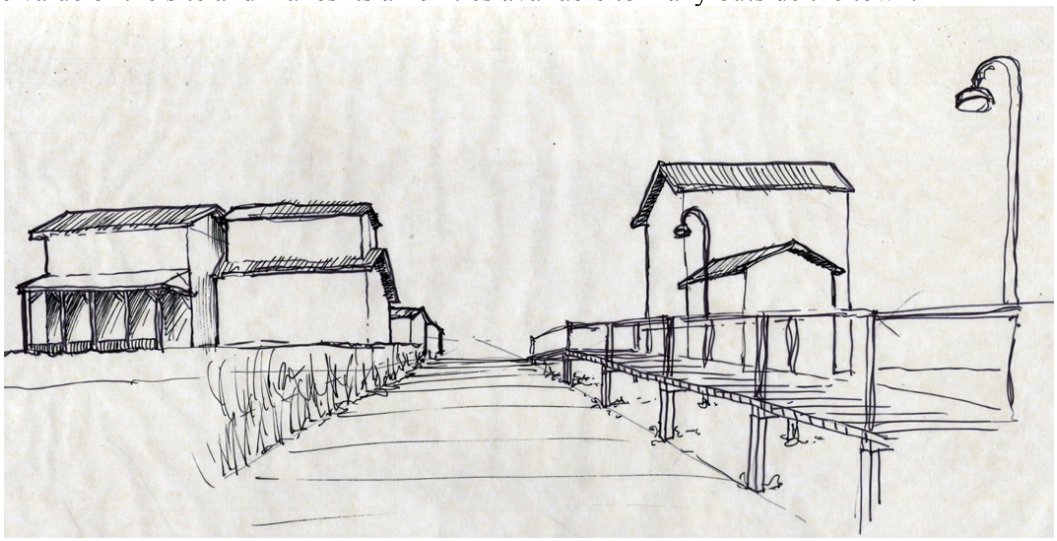


6.2.3.6
Traditional New England Beach-side Multi-family Types. The multi-family types range from apartment units, to condo units, to attached family units. These types, depending upon their use, architectural configuration, and location have different treatment of the street edge. These types offer the most variation in terms of formal and functional aspects.

6.2.4.1
Design Sketch: View from Long Island Sound. This view looks up the coast to the north-east with Hatchett Point in the foreground to the left and houses along the beach.

6.2.4.2
Design Sketch: View of the Marina. A boardwalk is created for waterside activities. The marina is surrounded by commercial uses such as restaurants, shops, and beach and leisure oriented recreation.

6.2.4.3
Design Sketch: View of the Beach and Resort Hotel. A Resort Hotel has the potential to be a booming tourist attraction as well as an economic resource for the town. The hotel captures the value of the site and makes its amenities available to many outside the town.

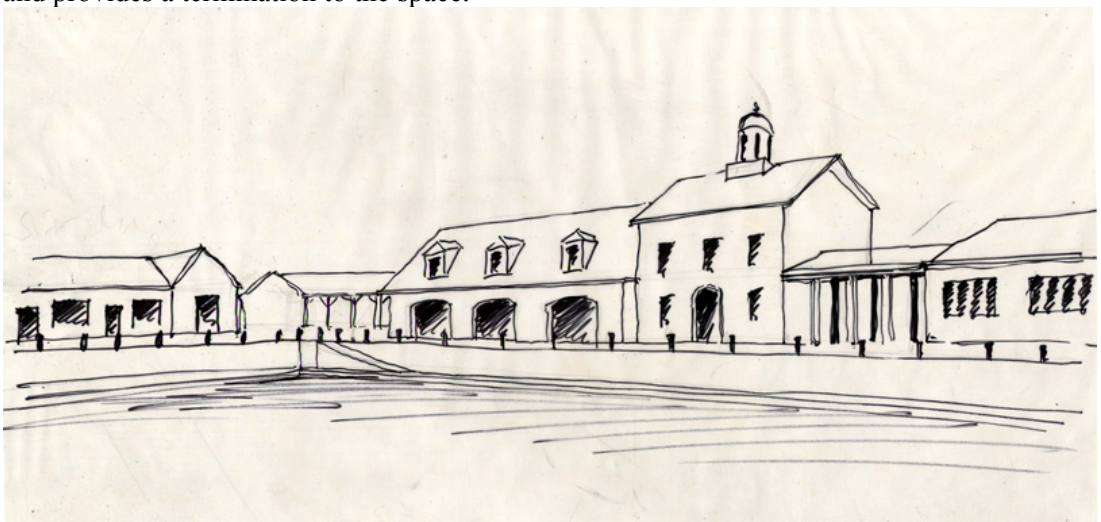


6.2.4.4
Design Sketch: View of Pedestrian Paths down to the Beach. The streets perpendicular to the water terminate in a condition similar to this image. It is important that the street be maintained down to the water's edge and access remains unrestricted. Small pavilions for bathrooms, changing rooms, and showers exist at these locations.

6.2.4.5
Design Sketch: View of Residential Units on the Beach. These houses maintain a consistent and uniform town edge at the water. The houses front the beach to create a facade. The beach is public domain with multiple means of access.

6.2.4.6
Design Sketch: View of a Residential Street. This street is designed perpendicular to the water, offering a clear, uniform, and harmonious view corridor down to Long Island Sound. Trees are kept off the street, not allowed to go beyond the build-to line so that the view corridor is uninterrupted.

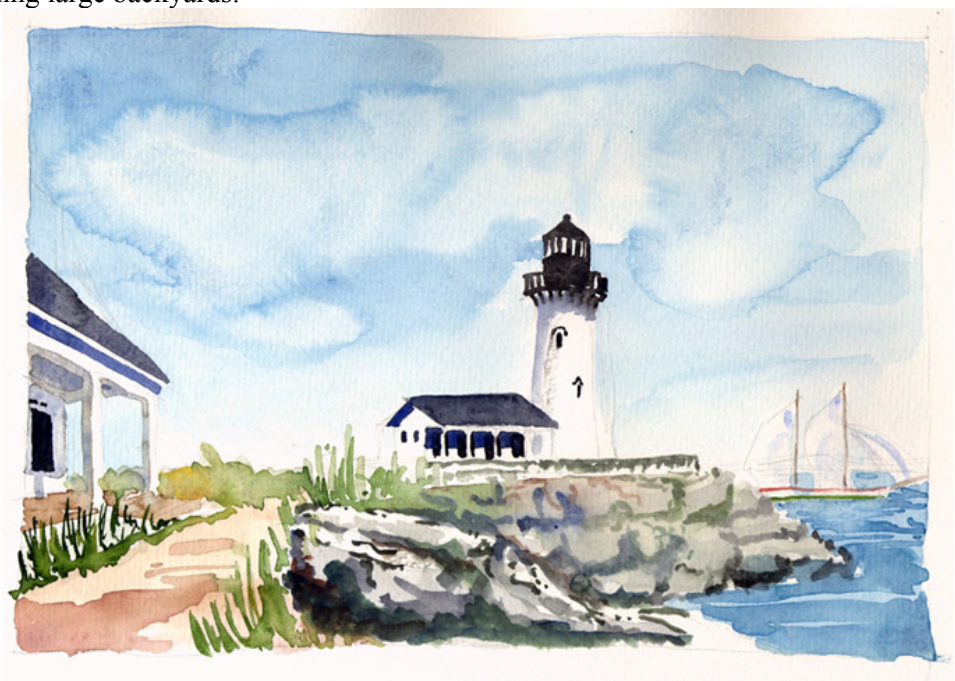
6.2.4.7
Design Sketch: Church and Green. The church and town green are typologies often associated in New England urban tradition. In this view, the church fronts the town green and provides a termination to the space.



6.2.4.8
Design Sketch: Boathouse. The marina requires suitable functions to surround the water. A public boathouse as well as other water-oriented commercial activities and restaurants take advantage of the proposed condition.

6.2.4.9
Watercolor Sketch: View from Marina up to Town Square. The topography provides the opportunity to compose a series of views from various points in the new town.

6.2.4.10
Watercolor Sketch: View up Street Perpendicular to Water. The trees, rather than lining the street, are limited to the build-to line of each property. This move maintains the view corridors down to the water. Porous hardscape materials vary the texture of the urban environment and reduce the surface runoff. Front yards are limited to gardening space while providing large backyards.



6.2.4.11
Watercolor Sketch: View of Hatchett Point. The lighthouse on Hatchett Point provides a landmark from both land and sea as well as being an iconic architectural type of New England.

6.2.4.12
Watercolor Sketch: View of Shoreline. Portions of the shoreline are developed with private homes. Orienting the homes to face the water not only benefits the home owner, but also creates an ocean-side façade of the new town.

6.2.4.13
Watercolor Sketch: View of the Marina. An alternate view of the marina showing colors and materials of the landscape as well as architecture.

6.2.4.14
Watercolor Sketch: Street Terminating Condition. Each of the streets perpendicular to the water terminate in a similar condition. The asphalt street changes to a porous hardscape. The semi-natural landscape is used to accent the architecture.

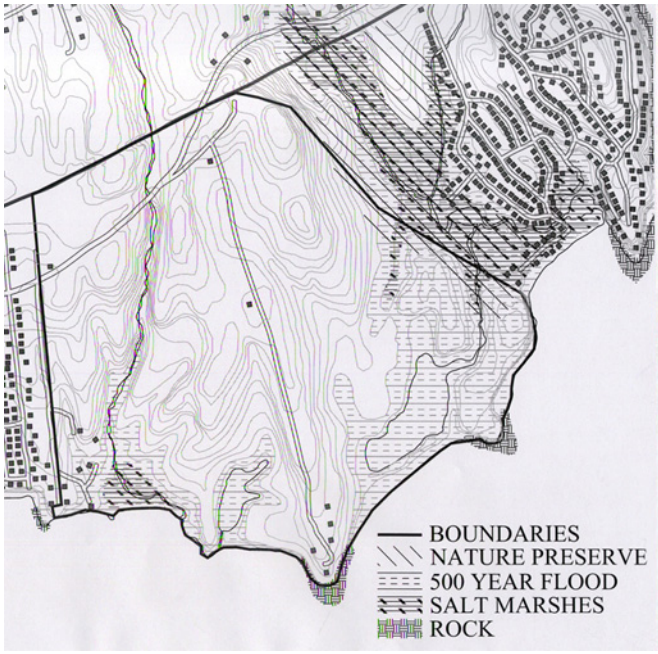
6.2.4.15
Watercolor Sketch: Train Station. The main entrance to the community is organized by a traffic circle which mediates between the automobiles on Shore Road and the commuters from the train station. A new square is created to complement the entrance to the city with commercial activities.

CHAPTER 7: PRELIMINARY PRAGMATIC DATA

This chapter briefly addresses some of the preliminary pragmatic specifications of the proposed design. Preliminary unit development proposals are used within the site context to calculate data which produces information such as: units per acre, people per acre, site dimensions, lot dimensions, lots per acre, percent of coverage on the lot, type of residential unit, square-foot dimensions per unit, parking per unit, other types of coverage on the site along with environmental considerations, as well as comparisons between the current planning ideology of the region and the proposed planning ideology of this thesis.

7.1 – Preliminary Development Data:

The total site area measures approximately 280 acres. This site encompasses the eastern edge of Old Lyme Shores that has been designated for development, the privately owned land stretching from Shore Road to Hatchett Point, and a small portion of the nature preserve on the western side of Point O'Woods. While the majority of the nature preserve lies outside the proposed boundaries, it is a significant influence on the thesis design. Table 7.1.1 shows potential constraints within the site boundaries as well as a percentage breakdown of the constraints within the site.



Total site area within boundaries:	280 acres
Nature preserve:	1%
500 year flood: (*500 year flood rises to 12')	22%
Salt marsh: (*All within flood plane)	2%
Rock:	1%
Total buildable site:	207 acres

Table 7.1.1.
Site Data. The percentage breakdown of the constraints relative to the total site area.

The nature preserve does not affect development on the site but is a significant consideration given its close proximity. The 500-year flood-plane covers nearly a quarter of the site. However, the 500-year flood-plane only rises to 12'-0". It should be noted that nearly 50% of Old Lyme Shores sits in the 500-year flood plane. Two simple solutions overcome this impediment. First, buildings should not have basements in the lower elevations of the site. Second, grade and topographic manipulation can resolve potential problems. This creates a more suitable site for development.

All salt marsh land lies within the 500-year flood plane. The rocky outcroppings along the shore line prevent development at the immediate water edge. However, this condition is regarded as an opportunity rather than a constraint.

As noted in Table 7.1.1, the total buildable area within the site boundaries after considering the potential site constraints is 207 acres. Yet the flood-plane can

be reasonably overcome by various urban and architectural means. As such, the estimate for the total buildable area within the site boundaries is increased to 220 acres.

A range of residential types is essential in the planning of a town – having just one type is insufficient. Also, a range of types provides for multiple real-estate opportunities as well as an increase in socio-economic diversity. Figures 7.1.1 and 7.1.2 illustrate specific development patterns, dimensions, and types.

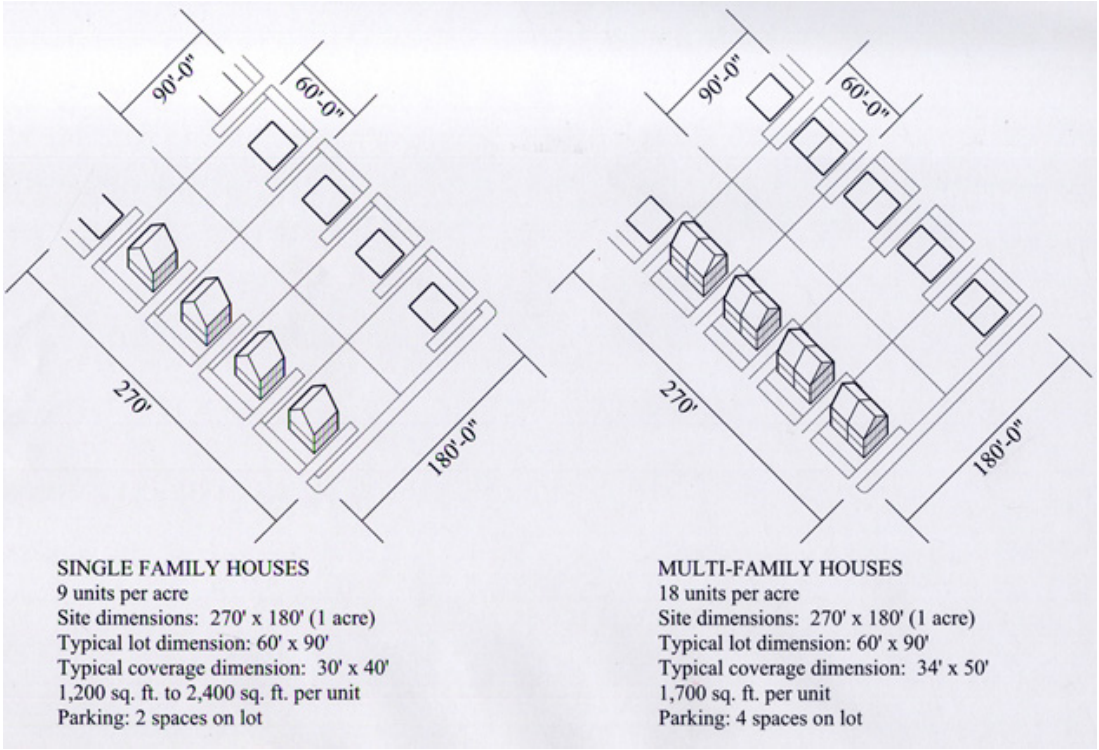


Figure 7.1.1
Proposed Development Types and Dimensions: Single Family and Multi-family Types.

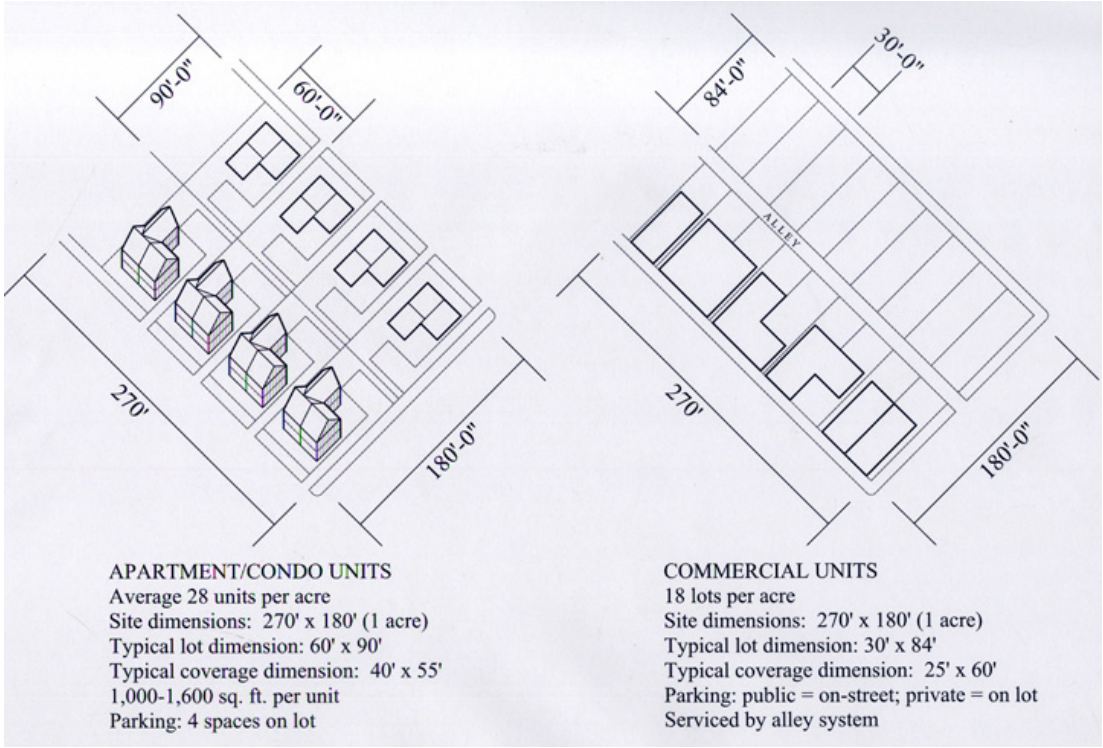


Figure 7.1.2
Proposed Development Types and Dimensions: Apartment/Condo Types and Commercial Lots.

These figures explore the development potential of a town block on a one-acre site, including unit type and lot dimension. The ideal lot for this proposal measures 60' wide by 90' deep. These dimensions accommodate a wide range of building types with appropriate space for parking and yards. The lot dimensions may also vary, either larger than the ideal, or as small as 45' wide by 65' deep. But this changes the type of unit the lot can accept. The commercial lots are a different type than the residential. The ideal commercial lot measures 30' wide and varies in depth from 55' to 84'. The width of the commercial lot remains constant throughout the new town, except in locations where necessary urban requirements out-weigh the proposed 30' width.

On a one-acre site with the lot dimensions outlined above, single family units total 9-10 per acre. The typical coverage on the lot is 30'x40' (22%). Unit

dimensions range from 1,200 sq. ft. to 2,400 sq. ft. Two parking spaces are provided on the lot with a garage as an outbuilding. Multi-family units total 18-20 per acre with typical coverage of 34'x50' (31%). Unit dimensions are 1,700 sq. ft. in two-stories. Four parking spaces are provided, two for each unit. Apartment and/or condo units average 28 per acre, depending upon the type of apartment or condo and the individual unit. Typical coverage on the lot is 40'x55' (40%) with a maximum of three stories. Unit dimensions range from 1,000 sq. ft. to 1,600 sq. ft. On parking spot per unit is provided on the lot. The commercial lots total 18 per acre. The number of commercial units per acre depends upon the proposed development. One lot can be developed alone or two lots can be developed together. The typical depth of the commercial unit is 55', providing space in the rear for service and private parking. Commercial lots are also serviced by an alley system.

Concluding data based on these proposed development patterns is shown in Table 7.1.2. The number of units per acre and density varies greatly without requiring the typical lot to change dramatically. Lot sizes do not remain exactly the same; a degree of variation is permitted, and in fact desired. Yet a range is provided to ensure continuity. The table also investigates the proposed percentage breakdown of private lot coverage, throughway, and types of open space.

Proposed Development Data: (Residential)	
Units per acre	9-28 units
People per acre	11-28 people
Lot size	3,200-5,400 sq. ft.
Lots per acre	9-10 lots
% of lot coverage by building	20-60%
F.A.R.	0.5 to 2
Private lot coverage	30%
Public throughway	25%
Public open space	20%
Public amenity	10%
Public recreation	2%
Public semi-natural	8%
Water	5%
Total site area	280 acres
Potential buildable area	220 acres
Total number of lots	660 lots

Table 7.1.2
Proposed Development Data for Residential Units.

The range of available residential types is a benefit on many levels. Various types along with the percent of coverage on the lot increase density which reduces sprawl. It provides opportunity for various kinds of development as well as architecture. This eliminates the bland, off-the-shelf problem of some of the regional developments today. The change in lot size brings variation in character and scale to parts of the town where dimension changes are needed or are of benefit.

The table also breaks down the land-use within the boundaries of the proposed site. Of the total 220 buildable acres, 30% is private lot coverage. Throughway space for vehicles and pedestrians is 25%. But most importantly, open space, amenity (beaches), recreational, and semi-natural spaces total 40%.

Given that the landscape, natural and man-made, is so important, the type of land coverage becomes critical. Table 7.1.3 breaks down the type of land coverage.

Land Coverage Type	
Building coverage	15%
Asphalt	15%
Porous Harscape	15%
Rock and shell	10%
Turf grass	20%
Rough grass	10%
Semi-natural	10%
Water	5%

Special Notes:

Minimize the potential increase of surface tempurature by minimizing hardscape.

Minimize surface water runoff by maximizing porous surfaces.

Allow multiple types of landscapes in open spaces, ammenities, and recreational spaces to increase biodiversity.

Table 7.1.3
Land Coverage Types

In regard to the environment, steps are taken to reduce the impact of the build environment on the natural landscape. Surface temperature increases with the amount of asphalt and concrete surface materials. To reduce this effect, throughway hardscapes of these kinds are reduced to a minimum. Given the varied topography, the two ponds, the two creeks, and the nature preserve, it is important to minimize the surface water runoff by maximizing porous surfaces and alternative landscaping designs. It is also important to allow multiple types of landscapes in open spaces, amenities, and recreational spaces to increase the biodiversity of the built environments.

Though asphalt is necessary to a degree (15%), other hardscape materials can be used for roads, sidewalks, and open spaces. Brick, concrete, and stone paving materials can be porous and allow surface water to penetrate to the soil. Alternative types of landscaping, such as rocks and shell provide necessary throughways and reduce the amount of man-made materials needed. Turf grass and rough grass are balanced to provide the necessary design intention for landscapes. Semi-natural elements, i.e. native plants and surfaces, are maintained or introduced to reduce the impact of the built environment and vary the landscape for environmental and aesthetic purposes.

Finally, Table 7.1.4 compares the current planning ideology with the proposed planning ideology illustrating that functionally, economically, and environmentally the proposed planning ideology is superior.

Comparative Development Data:		
	Current Planning Ideology of the Region	Proposed Planning Ideology
Gross Site Area	80 Acres	80 Acres
Throughway Area	5 % (only roads)	25% (streets and walkways)
Common Open Space	None	45% (open space, amenity, and semi-natural)
Number of dwelling units	1.5 per acre	9-28 per acre
Type of unit	single-family	single-family multi-family apartment condo
Floor area per unit	1,800 per unit	1,000-2,400 per unit
Coverage on lot per unit	2.2% coverage on lot	20%-60% coverage on lot
People per acre	3.75 people	11-28 people
Sq. ft. coverage/acre	3,600 sq. ft. per acre	11,000 sq. ft. per acre

Table 7.1.4
Comparative Development Data.

The current planning ideology is derived from the current state of planning in the region. The table compares the two planning ideologies based on an 80 acre site. While the current planning ideology requires much less throughway area, the result is a sprawling development which consumes large areas of natural environments to satisfy the planned need of 1.5 units per acre. The proposed planning ideology requires five times the throughway area, which provides a network of streets and pedestrian environments not provided in the current planning methods. The proposed planning ideology yields 45% public open space, including man-made and natural landscapes, as compared to none in the current planning ideology. Finally, though 95% of the acreage is available for private lots with the current planning ideology, only 1.5 units per acre are planned resulting in 114 mono-functional units on the site. The proposed planning ideology develops 30% of the acreage for private lots with approximately 14 units per acre. This yields 336 multi-functional units on the site with the potential to increase or decrease density by changing unit types and lot dimensions.

In close, it is important to note that this data is preliminary, collected from initial development ideas, serving to inform further the design process. It represents tests for the thesis and not the designed result.

CHAPTER 8: PROCESS MATERIAL

This chapter briefly outlines a small portion of design process material. For a project of like this thesis, exploring design issues at multiple scales was critical. Formal and functional relationships had to be tested in the site context. Other traditional New England precedents became valuable. Certain design criteria had to be established early on to build a foundation for further design.

8.1 – The Initial Explorations:

Initial explorations consisted of formal and functional relationships within the site context as well as a crystallization of most programmatic elements. The traffic circle as an urban type was the first exploration. The traffic circle identifies the main entrance to the town; it creates a node within the fabric; it slows the traffic along Shore Road to create a suitable environment for the pedestrian; and most importantly, it mediates between Shore Road and the railroad, capturing the potential access value and commuter traffic. Designing on the site for the traffic circle required consideration of the existing watershed of Armstrong Brook, Shore Road with the bridge over the railroad line, and the railroad itself. These three physical and functional features limited the site and required special considerations.

The train station had to be built near the rail line. As such, the distance between the rail line and shore road needed to be dealt with. Further, a suitable urban form for the traffic circle had to be designed to accommodate the issues of traffic, entrance, and pedestrian. Pragmatics such as parking, drop-off, commuter retail potential, number of access points in and out of the traffic circle to the site and

surrounding context as well as initial block dimensions and street widths were considered.

The marina was the second exploration. Since the marina is to be created by manipulating Little Pond, the pragmatic issues of means of access, tides, tidal flow, wind direction, dimension, hard and soft edges, size of boats, size of slips, required dimensions for usage, number of boats, depth of water, boat maintenance and upkeep, commercial activities, and construction result in the designed solution.

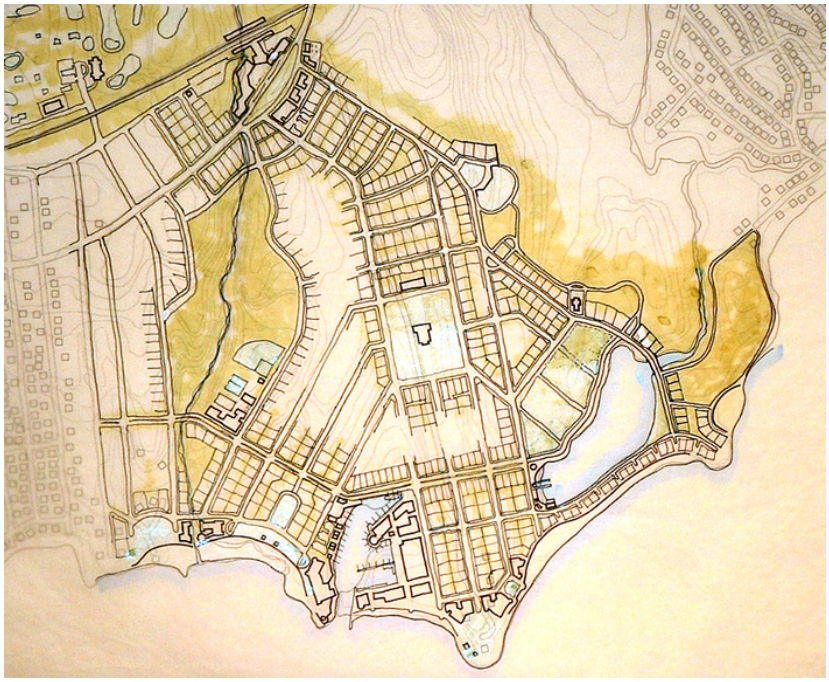
Further early explorations included the Lawn, Hatchett Point, the resort hotel, the town Green, the northeastern residential square, and most importantly, block and street dimension on existing topography. The lawn explored issues of size, shape, urban and architectural character, and the relationship to topography and views. Hatchett Point looked and functional uses on the site; changing topography and water edge conditions; symbolic, terminating, and arrival conditions; and access to the narrow outcropping. The resort hotel's pragmatic issues of size, access, views, service, facades, site condition, and parking were established. The Green addressed issues of the flood plane, topography, the relationship to Big Pond, the functions surrounding the space, and its relationship to the larger landscape. The residential square considered the elevated site, views, size of the space, and manipulating topography. Block dimension, street width, and distance from centerline of street to centerline of street had to be established early. Access, orientation, topography, automobile and pedestrian environments, and lot sizes were all considerations.

8.2 – Process Drawings:

After the initial explorations went through several iterations on trace paper and in the sketchbook, several attempts were made to bring as many issues as possible together in several master plans. These attempts, like the initial explorations, also went through several iterations in a continual process of development. Multiple scales, from the master plan to specific locations, were dealt with simultaneously. A very small sample of this material is shown in the gallery of plates (Plates 97 - 109) at the end of this chapter. The schemes, diagrams, and street sections are all products of work completed well into the design process. As such, many aspects have been determined and are shared among all the various schemes in one form or another. These include: urban space types, location, block dimensions, access, street widths, street orientation, lot number, functional types, topographic relationships, edge conditions, the waterfront, beaches, recreational spaces, natural and man-made landscaping, axial relationships, etc. The schemes manipulate these parameters at various scales while exploring urban patterns and additional forms.

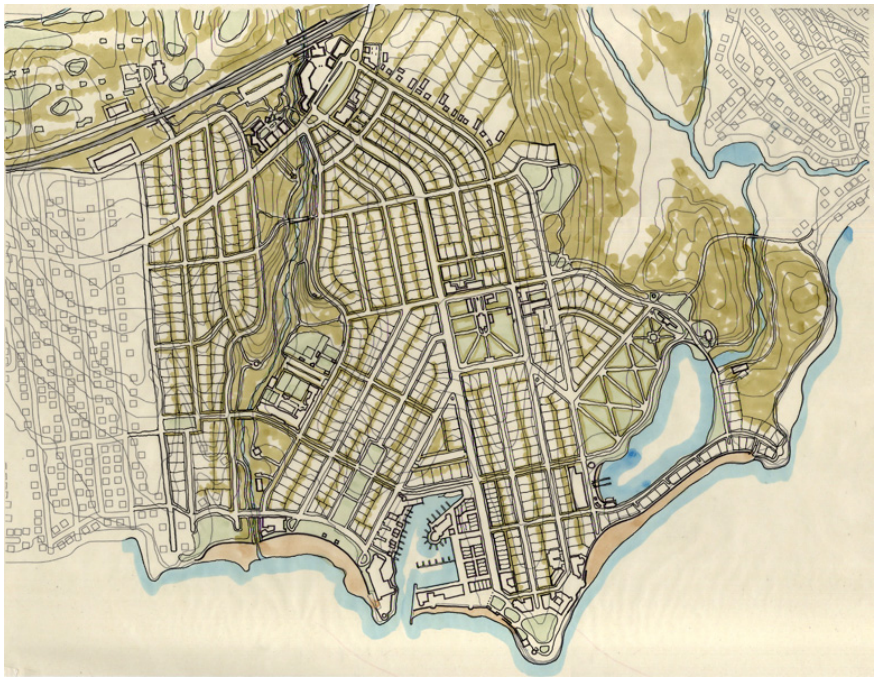
8.2.1
Scheme A. Scheme A establishes two streets from the traffic circle. A ring boulevard runs parallel to the water and connects Old Lyme Shores to the nature preserve on the east side of the site.

8.2.2
Scheme B. This scheme focuses more attention on the development of the edge conditions at Armstrong Brook and Threemile River. One street serves as the access to the site with entry on-center in the town square. The commercial street runs parallel to the water's edge.



8.2.3
Scheme C. Scheme C returns to using two streets to access the site from the traffic circle. The watershed area on the west side is left natural with less development. The eastern edge is developed with housing lots. A boulevard connects Old Lyme Shores to the new town, linking green spaces and urban spaces along a road parallel to the water.

8.2.4
Scheme D. This scheme proposes three access streets at the traffic circle, with the main street entering on-center of the town square. The street pattern is less developed, focusing more on the individual spaces and urban conditions.

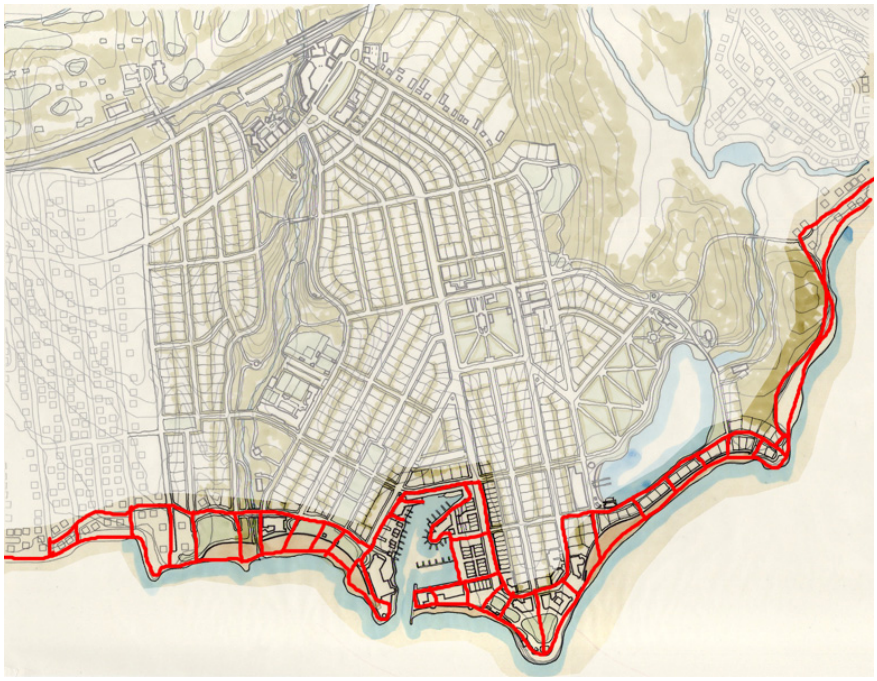


8.2.5
Semi-Final Scheme. This scheme pulled all the positives of the earlier proposals together in one master plan. The east side of Old Lyme Shores is filled out, the watershed areas are preserved, the street and block orientation established, specific urban spaces further developed, lot lines and types detailed, and public buildings proposed.

8.2.6
Land-Use. Two commercial centers are created, one at the traffic circle with commuter retail, and one at the marina with various water-related uses. The marina center serves as the commercial center for the town. The town square is surrounded by civic uses and residential.

8.2.7
One-quarter Mile Radius. The town is designed to be a suitable walking scale for the pedestrian. The key is to carefully determine the distance between urban spaces, making sure that each is identifiable as its own experience and neighborhood while making them close enough to be related and walkable.

8.2.8
Shoreline. The beaches and rocky outcroppings have been maintained and enhanced to offer variation in the waterside experience. The beaches are the major amenity of the community and must be designed to accommodate users.



8.2.9
Pedestrian Condition. It is critical to provide multiple means of access to the water edge as well as to create a continuous pedestrian condition which relates to the waterside and urban environment.

8.2.10
Street Orientation. A great deal of effort has been made to design streets and blocks perpendicular to the water to enhance views. This design choice clearly relates the built environment to its waterside context. Further, the streets are very sensitive to the topographic conditions of the site.

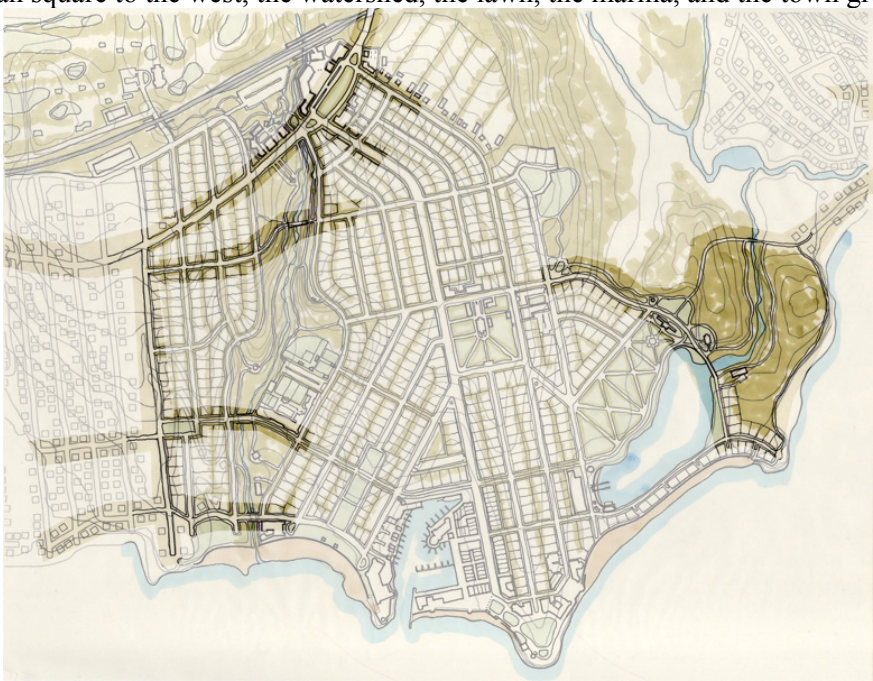
8.2.11
Flood Plane. The 500-year flood plane helps to determine what locations are appropriate for building, and what locations are appropriate for natural landscapes. In the aftermath of hurricane Katrina, understanding how natural conditions affect the site are essential.

8.2.12
Watersheds. The watersheds of Armstrong Brook and Threemile River (with the nature preserve) are maintained as natural environments with minimal development interventions. Pedestrian and bike paths are networked throughout for public enjoyment.

8.2.13
Watershed Connections. The watersheds are connected to the surrounding urban environments to weave both together rather than remaining separate. This diagram also indicates the cross-town connections perpendicular to the primary and secondary streets.

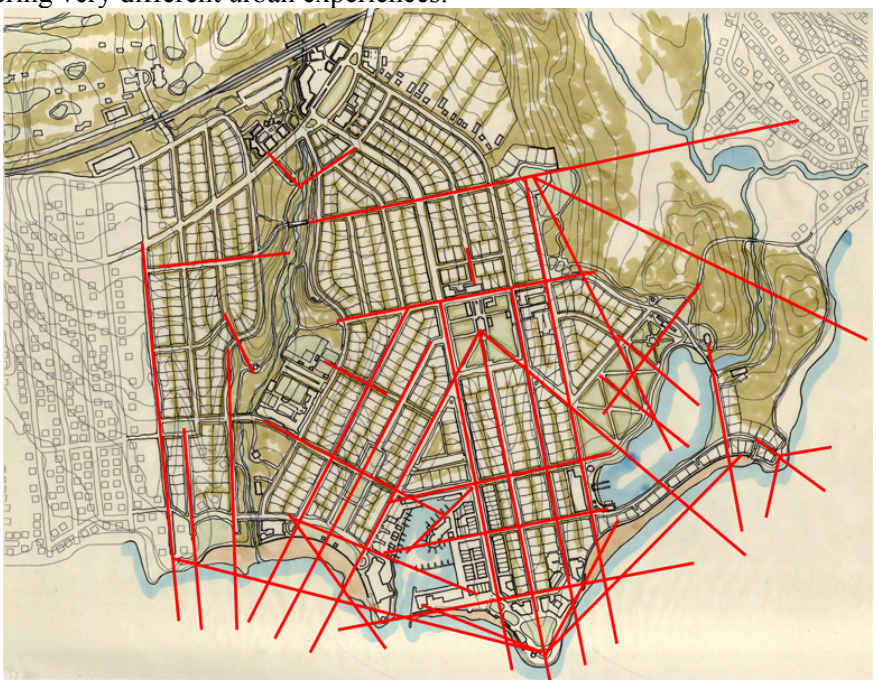
8.2.14
Main Street. The main hierarchical street connects the traffic circle, the town square, and the marina with a clear and imageable path leading from Shore Road to the arrival point on the water.

8.2.15
Boulevard. The boulevard establishes the major connection parallel to the water. It links the small urban square to the west, the watershed, the lawn, the marina, and the town green.

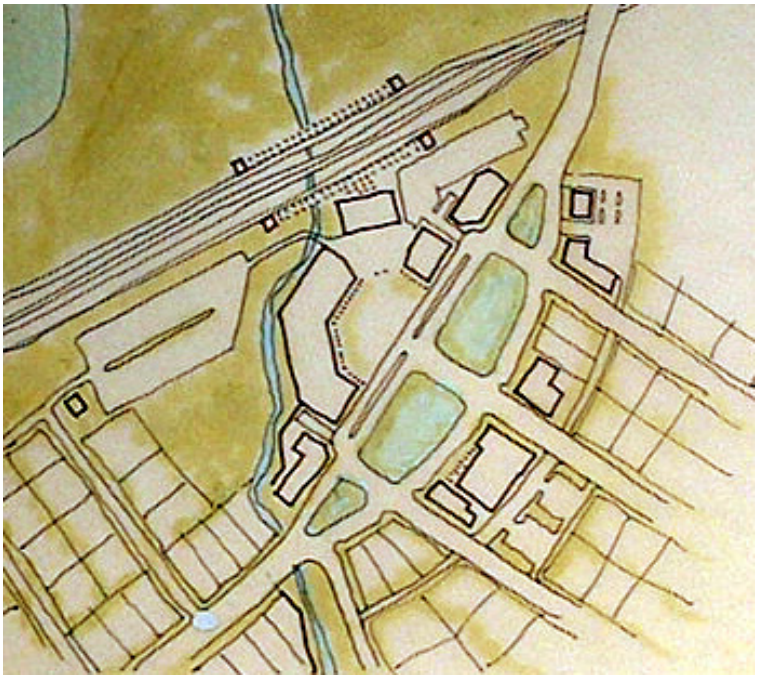


8.2.16
Connections. Connections to the surrounding communities are important to prevent any sense of isolation or exclusion. This new town is intended to participate in the larger community of Old Lyme and its surrounding beach towns. Multiple connections are made between the new town and Old Lyme Shores while pedestrian and natural landscaping connections are made through the nature preserve to Point O'Woods.

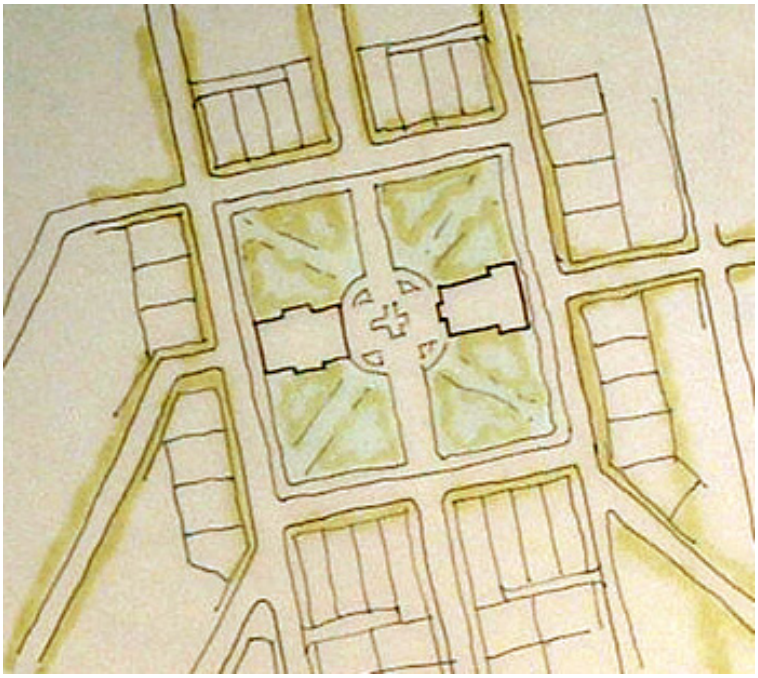
8.2.17
Triangle. The three major urban spaces: the marina, town square, and town green, are clearly connected. The town square with its civic functions sits high upon the ridge, overlooking both the green and marina. All three work together to create a sense of the whole in the town while offering very different urban experiences.



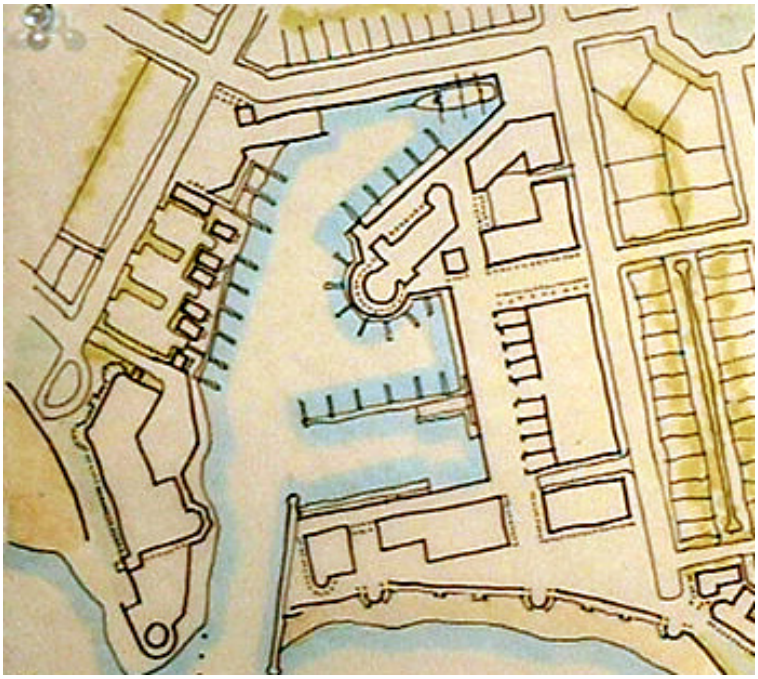
8.2.18
Views. Given the topography and existing conditions of the site, views were enhanced or created to take advantage of site characteristics and to improve the quality of the urban environment.



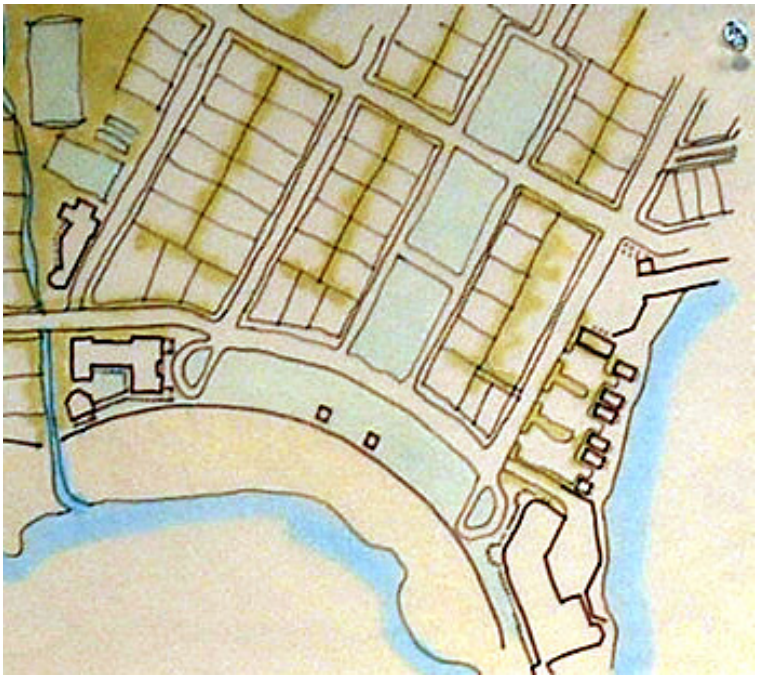
8.2.19
Traffic Circle. The railroad station, commuter commercial, a grocery store, firehouse, and service stations surround the traffic square. The shape was determined by site conditions and traffic flow. The lanes are divided by a large green space to slow traffic and clearly identify the entrance to the new town.



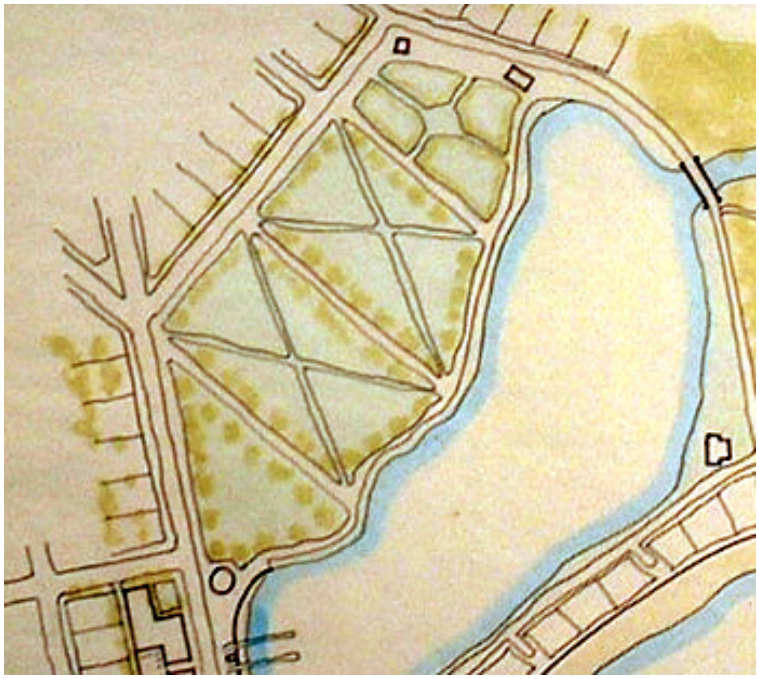
8.2.20
Town Square. The square serves as a civic center to the town as opposed to a commercial center. The church, town hall, and various other civic institutions surround the square along with single- and multi-family residential units.



8.2.21
Marina. The marina is surrounded by a hotel, cottage rentals, and commercial activity related to the water. It also provides for cruises, boating, and small watercraft for residents and visitors.

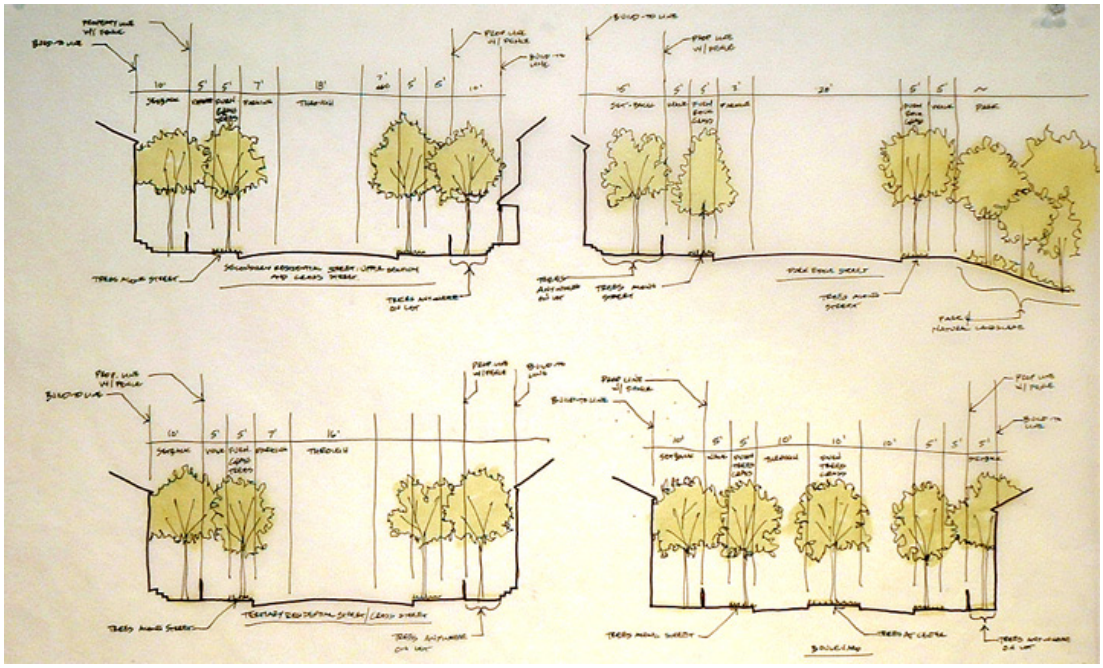


8.2.22
Lawn. The lawn takes advantage of the secondary "finger" created by the topography on the site. It gently rolls down the hill to the crescent along the beach. The space uses the UVA lawn as a precedent for dimension, proportion, and architectural treatment.

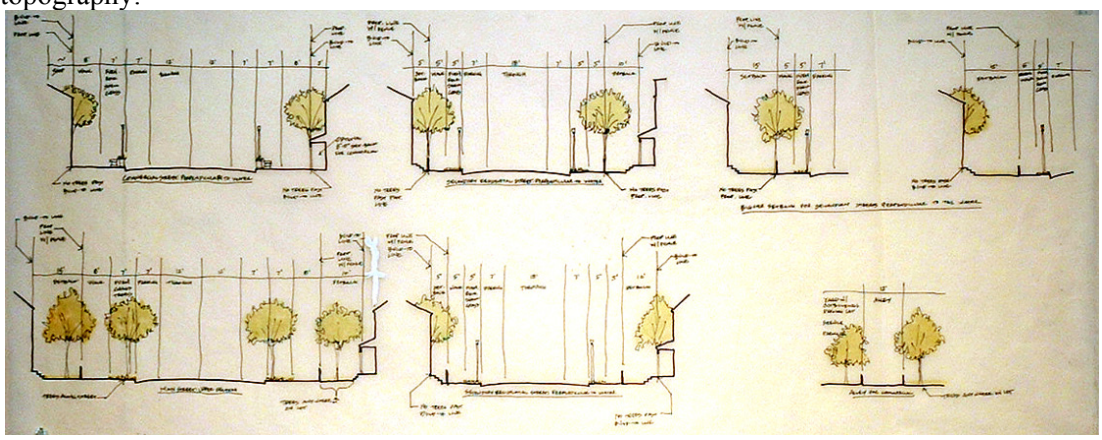


8.2.23
Town Green. The green, typical of New England, is an important space in the town plan. It attempts to embody the quality and tradition of the green as a native space type. It works with Big Pond, treating both as one whole and not as two separate conditions.

8.2.24
Residential Square. The square takes advantage of the highest point on the site to create a unique vista location from one-half mile inland that looks out over the nature preserve, Point O'Woods, and Long Island Sound.



8.2.25
Preliminary Street Sections. The street sections explore dimension, pedestrian and automobile conditions, build-to lines, property lines, landscaping, water drainage, and topography.



8.2.26
Preliminary Street Sections. Multiple street types are explored, from the main street, to secondary streets, to tertiary streets, to alley systems for commercial.

CHAPTER 9: FINAL PRESENTATION MATERIAL

This chapter outlines the material presented to the architecture faculty and jury on December 12th, 2005 in partial fulfillment of the requirements for the Graduate School of Architecture, Planning, and Preservation at the University of Maryland.

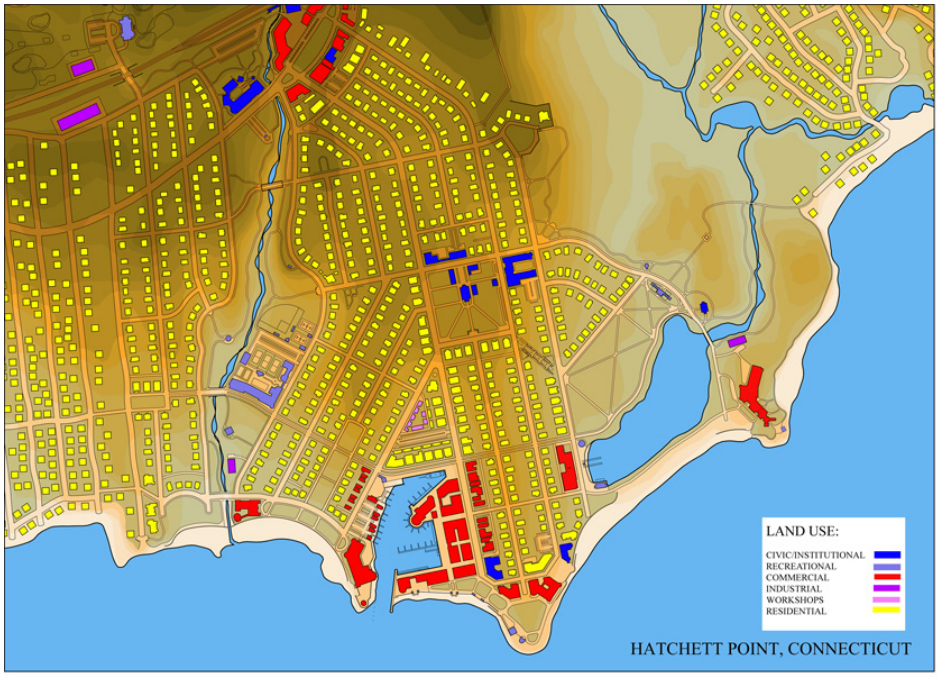
9.1 – Graphic Material:

The graphic material produced for this thesis project explores a range of scales, from large urban master planning to architectural detailing and construction. The graphics plates include the existing site, proposed site, master plan, diagrams, axonometrics, perspectives, and analytiques. This material is shown in the gallery of plates (Plates 110 - 134) at the end of this chapter.

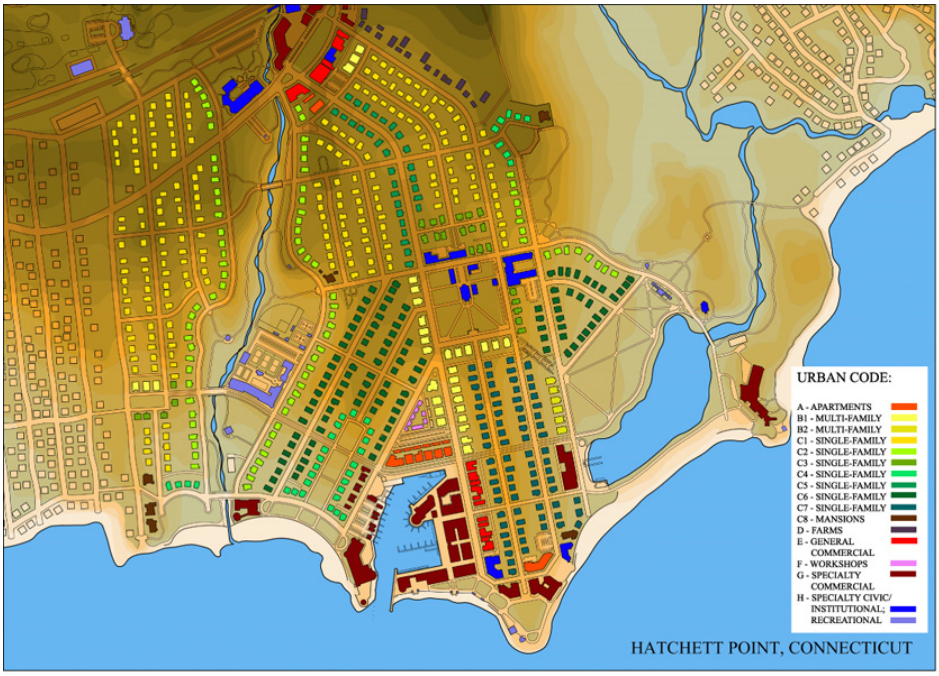
9.1.1
Existing Site Plan.

9.1.2
Proposed Site Plan of Hatchett Point, Connecticut. The intervention fills out the eastern side of Old Lyme Shores. The two watersheds along Armstrong Brook and Threemile River are maintained and enhance the new community. Multiple connections are created with the surrounding communities and landscape. Both Shore Road and the rail line provide access. A golf course is proposed on the unused land of the Old Lyme suburb to compliment the tourist industry of the region. The street and block grid connect the community to the water, work with existing topography, and clarify the urban experience. The two ponds on site are enhanced to create new urban and natural environments.

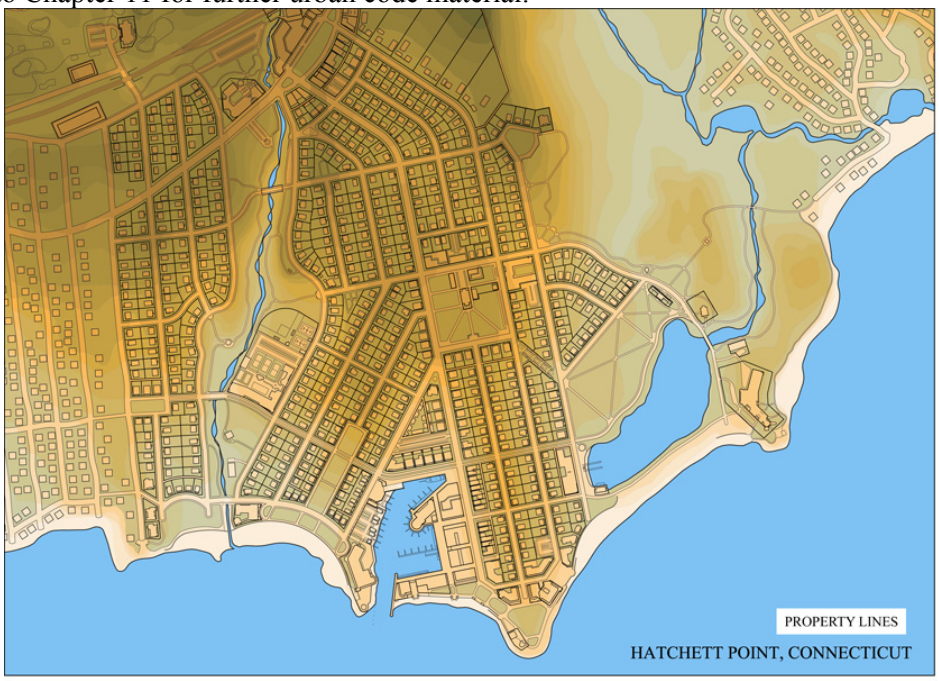
9.1.3
Master Plan. Building typologies are clearly shown in the enlarged master plan. Density is increased around strategic urban spaces such as the marina, the town square, and the traffic circle.



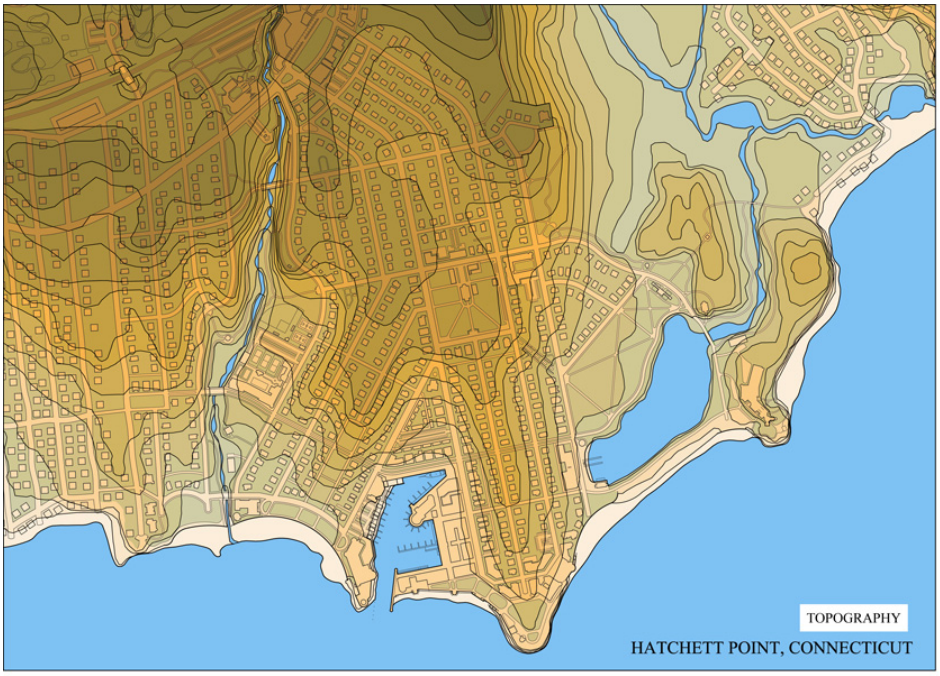
9.1.4
Land-Use. Yellow = residential; red = commercial; dark blue = civic; light blue = recreational; dark purple = industrial; light purple = workshops. The land uses create three distinct centers within the community: the traffic circle, for commuter and regional retail and services; the town center for religious, governing, and institutional uses; and the marina and commercial street for town retail, office space, water and tourist related uses.



9.1.5
Urban Code. The color code of this diagram indicates building and lot type. Each color indicates a specific type of lot and building design relative to location within the master plan. Refer to Chapter 11 for further urban code material.



9.1.6
Lot and Property Lines.



9.1.7
Site Topography. While some of the existing site topography had to be manipulated to accommodate some parts of the master plan, to a large extent all the existing topographic conditions were maintained to create a site-dependent new town.

9.1.8
Quarter-mile Radius. This diagram gives a sense of scale to the master plan as well as demonstrating the walking proximity of distinct urban and natural conditions. From the town center, a five-minute walk takes the pedestrian to either watershed landscape, the marina, town green, or lawn. A ten-minute walk from the town center reaches the train station and Shore Road all the way down to the water's edge and Hatchett Point and across to Old Lyme Shores and Point O'Woods. It is truly a walkable development.

9.1.9
Beaches. The beaches are enhanced to take advantage of the existing amenity. The beaches alternate with rocky outcroppings and changing topographic conditions along the shore. Seawalls are in place to accommodate weather and climactic conditions.

9.1.10
Pedestrian Condition. The pedestrian condition along the water edge offers multiple experiences of the town up and down the shore. A continuous path at the water's edge and an internal path within urban context is always available to the pedestrian. Multiple access paths are created to ensure a sense of public domain along the water.

9.1.11
Streets. A great deal of effort was taken to generate a street grid that offered views and connections to the water amenity while consciously taking advantage of site topography.

9.1.12
Nature Preserve. This area indicates the existing nature preserve identified by the existing communities.

9.1.13
500-Year Flood Plane. The flood plane is a heavy consideration in planning the new community. No housing developments were designed to sit in the plane. Natural and man-made landscapes are placed appropriately to deal with any possible flood condition.

9.1.14
Watersheds. The existing natural conditions around the two watersheds on the site are maintained and enhanced to create two additional amenities for the new town. The watershed and nature preserve to the east is preserved and enhanced as a natural edge. The watershed along Armstrong Brook is treated like a park system, preserving existing conditions while adding recreation. The golf course, small school, bike paths, and recreational facility are linked through the green space to the water edge.

9.1.15
Watersheds Enlarged. The two watershed areas can be considered part of a large network of natural and man-made landscapes. The watershed along Armstrong Brook connects several communities together with recreational amenities while the other preserves the nature preserve and connects with Rocky Neck State Park further up Threemile River.

9.1.16
Main Street. Identifying a clear connection from the traffic circle and Shore Road to the waterfront is critical as a hierarchical element within the master plan. This creates a clear sense of arrival at both the water edge and at the entrance to the community.

9.1.17
Main Street Connections. The main street connects the major spaces; the traffic circle, the town center, and the marina and promenade. Each space offers a different urban, functional, and psychological condition, capturing the value of the site context.

9.1.18
Boulevard. The boulevard is the main connection parallel to the water edge. It begins at the small urban square to the west and terminates at the chapel at the east end of the green. The urban square is a figural linkage between Old Lyme Shores and the new community. The chapel serves as the backdrop to the town green.

9.1.19
Boulevard Connections. The boulevard also strings together multiple environments; from a small urban square, through the Armstrong Brook watershed, through the lawn, along the marina, over the ridge line, arriving in the town green along Big Pond with the chapel and casino as the backdrop to the east.

9.1.20
Cross Street Connections. Multiple cross-town connections are created to increase porosity through the blocks and connect the two watershed areas, recreational areas, and amenities together. Each bridge across Armstrong Brook offers a unique threshold opportunity while on the other side the connections terminate in unique natural landscapes connected to the natural edge.

9.1.21
Surrounding Connections. Connecting the new town to the surrounding communities is important so as not to isolate developments from each other. While connections to Point O'Woods are limited because of the nature preserve and flood plane, they are designed as pedestrian and recreational paths. Connections to Shore Road and connections to Old Lyme Shores are made via streets, corridors, and spaces.

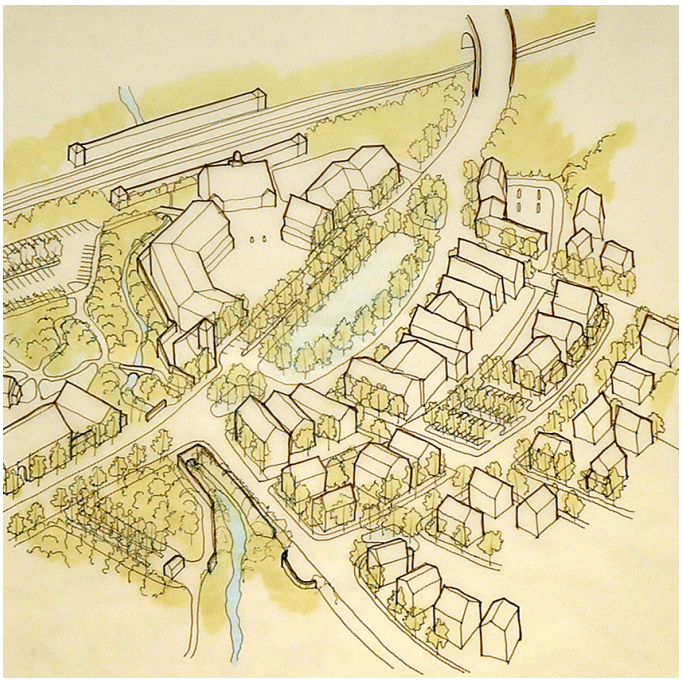
9.1.22
Triangle. The marina, town square, and town green are organized in a triangular form which balances each with the other. The town square sits on the highest point of the ridge line looking over both the green and marina.

9.1.23
Views. Visual connections to the landscape are a generating force in the design. Countless views are used to enhance the urban and natural conditions and to connect the design with the site.

9.1.24
S-Experience. Alternative experiences of the town are designed. As an example, a person can get to the waterfront not only by direct path, but by choosing to experience multiple urban and environmental conditions throughout the entire community.

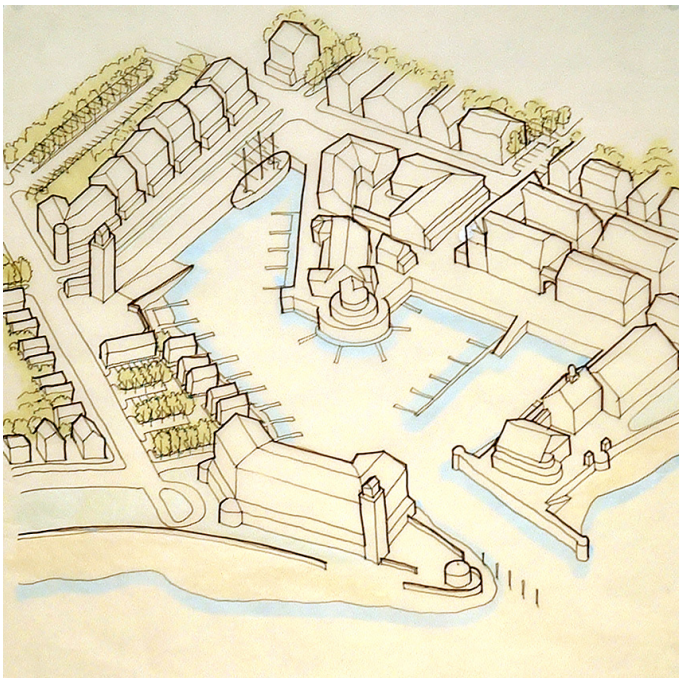
9.1.25
Watershed Paths. Bike and pedestrian paths create a network through the watershed areas. These paths connect the urban conditions to the natural conditions, preserve the existing landscapes, and serve as another amenity.

9.1.26
Changing Waterfront. The waterfront is designed to change relative to specific site conditions, urban conditions, and uses. Natural landscapes, man-made landscapes, hardscapes, and dense urban environments are all part of the waterfront design.

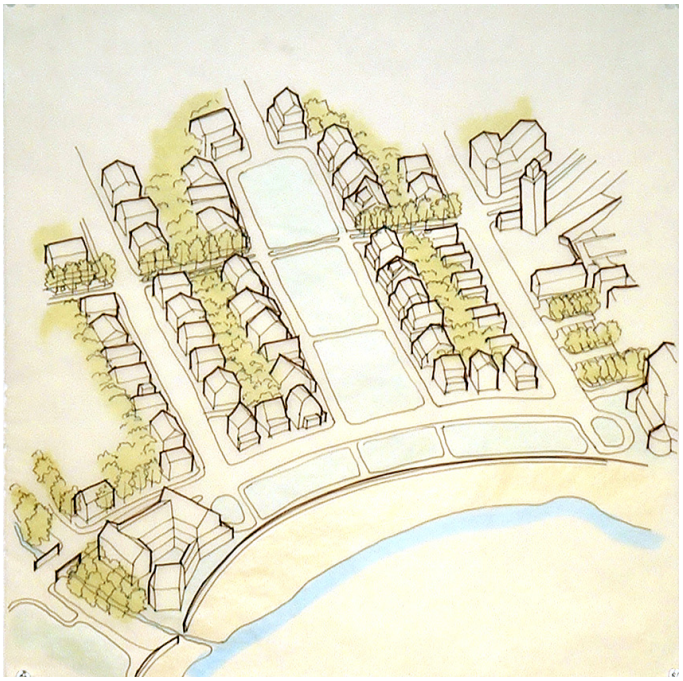


9.1.27
Traffic Circle Axon: View from the Southwest.

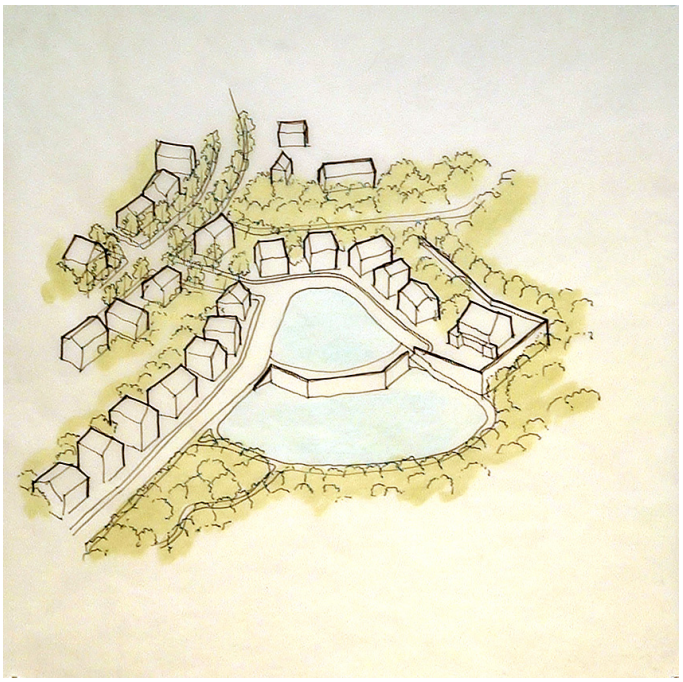
9.1.28
Town Square Axon: View from the Southwest.



9.1.29
Marina Axon: View from the Southwest.

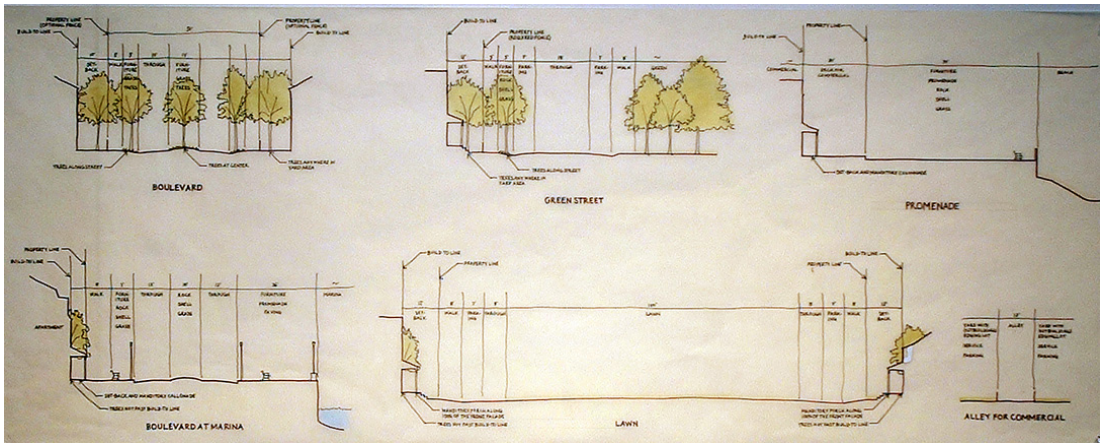


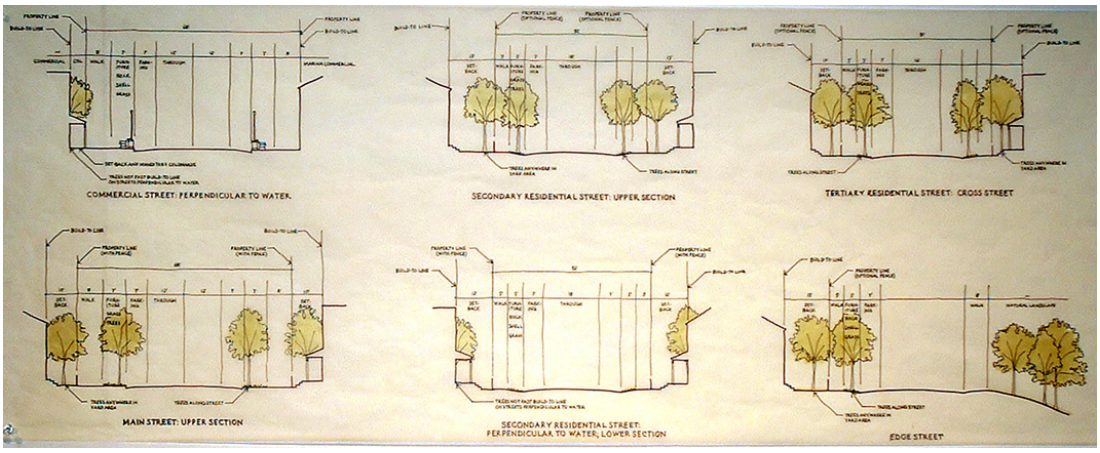
9.1.30
Lawn Axon: View from the Southwest.



9.1.31
Residential Square Axon: View from the Southeast.

9.1.32
Town Green Axon: View from the Southeast.





9.1.33 and 9.1.34

Street Sections. The street sections are designed to accommodate both automobile and pedestrian traffic while dealing with issues of parking, landscaping, paving, surface runoff, dimension, urban and architectural furniture, street type, street hierarchy, build-to lines, property lines, and topography.

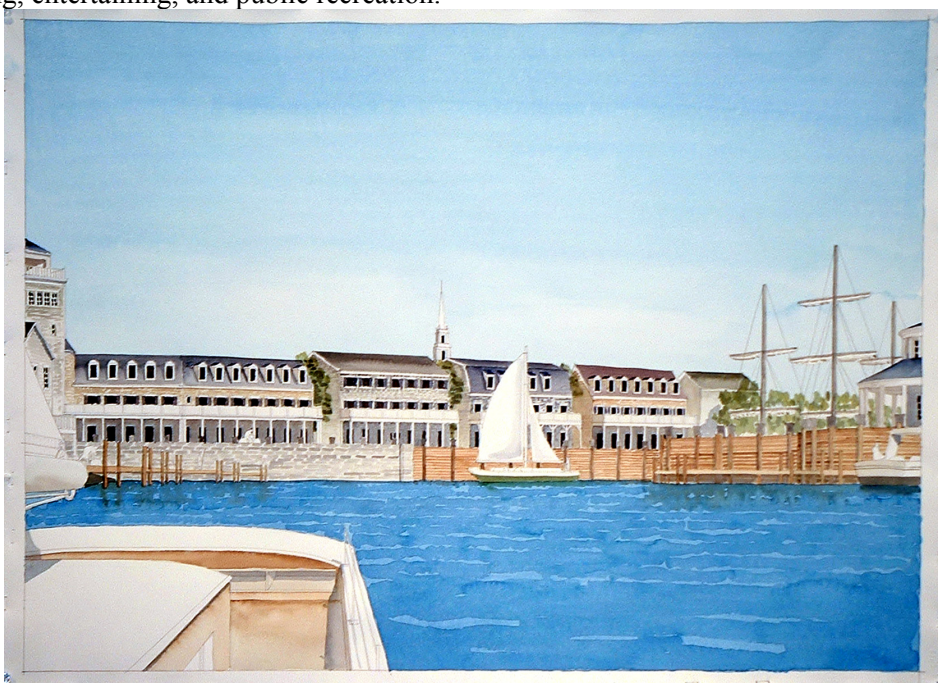
9.1.35
Traffic Circle Perspective: View from the Southwest. A half-octagonal space creates an outdoor square along Shore Road. The green space to the right divides the lanes of Shore Road. A drop-off area is located on the other side of the tree-lined median. The railroad station is in the background with two-story commercial lining the square.

9.1.36
Main Street to Town Square: View from the North. The houses are moved toward the front of the lot to create an imageable urban path. Trees and landscaping are space regularly along the street. The architecture and urban conditions are scaled to the pedestrian.

9.1.37
Town Square: View from the South. The town church (non-denominational) occupies the center of the square creating a symbol in the civic center of the town and making spiritual life a part of the community. Residential units surround the square along with other civic functions.

9.1.38
Marina: View from the North. The granite wharf building lines the east side of the marina with the marina boathouse and maintenance facility to the south. The marina is designed to accommodate private watercraft and public cruise boats for tourism and amusement.

9.1.39
Promenade: View from the West. The promenade is the arrival point at the water's edge. The lighthouse serves as an iconic symbol in New England communities. The promenade offers various landscaping conditions with access to a small beach below. It is used for strolling, entertaining, and public recreation.

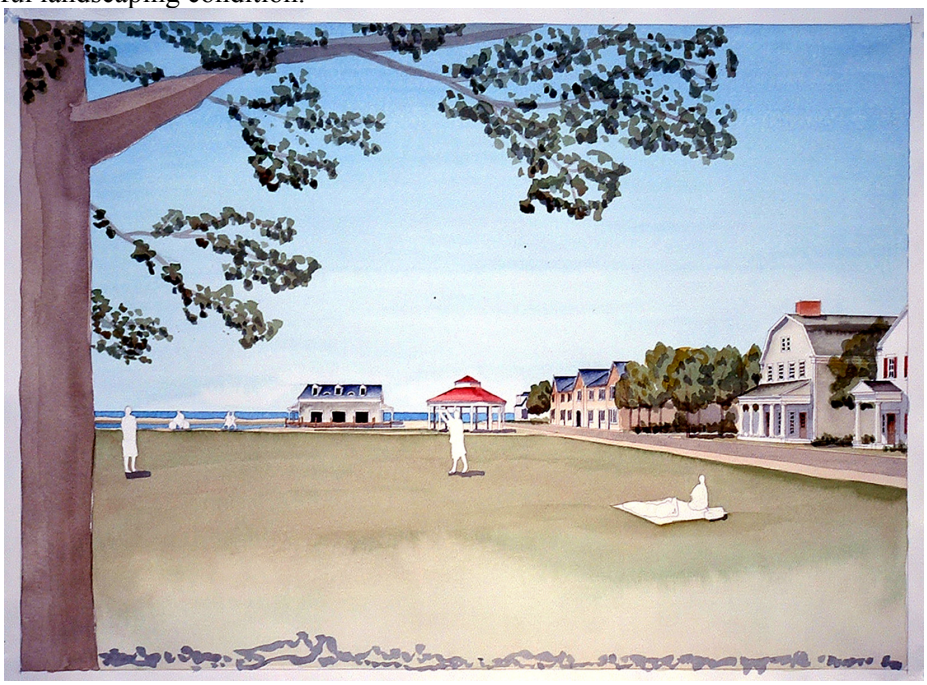


9.1.40
Marina: View from the Water looking North. It is important to have the architecture and urbanism create a façade from the water. On the north side of the marina are apartment and condo units with the steeple of the church in the background on the hill above. A large Clipper ship docked in the marina serves as a historical, cultural, and learning place.

9.1.41
Lawn: View from the North Looking Down the Hill. The lawn is a space where both urban design and architecture come together harmoniously to capture the existing site condition and views to the water.

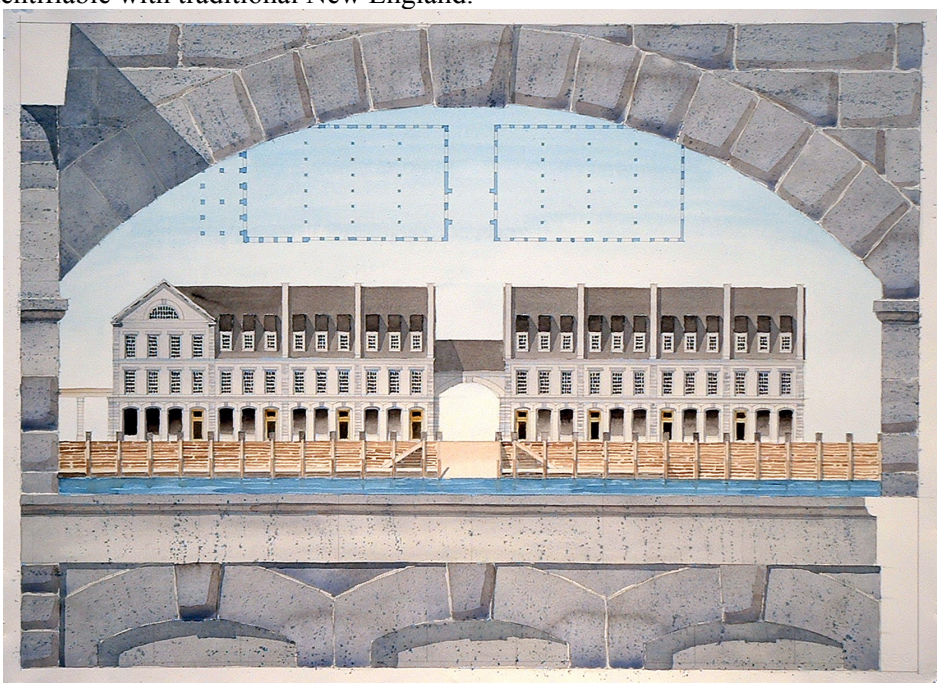
9.1.42
Crescent: View from the West Looking Toward the Hotel. The hotel sits out on a small promontory with the crescent to the west and the marina to the east. The crescent mediates between the lawn and the beach through changes in landscape treatment.

9.1.43
East Beach: View from the West Looking Toward the Casino. The casino is modeled after the casinos of the early 20th century in New England. It sits on a small promontory above the flood plane and is designed as an object in the landscape. The chapel to the right sits on a small hill and serves as the backdrop to the green. Big Pond is used for boating and swimming. The transition from the green, to Big Pond, to the dunes, to the ocean is a wonderful landscaping condition.



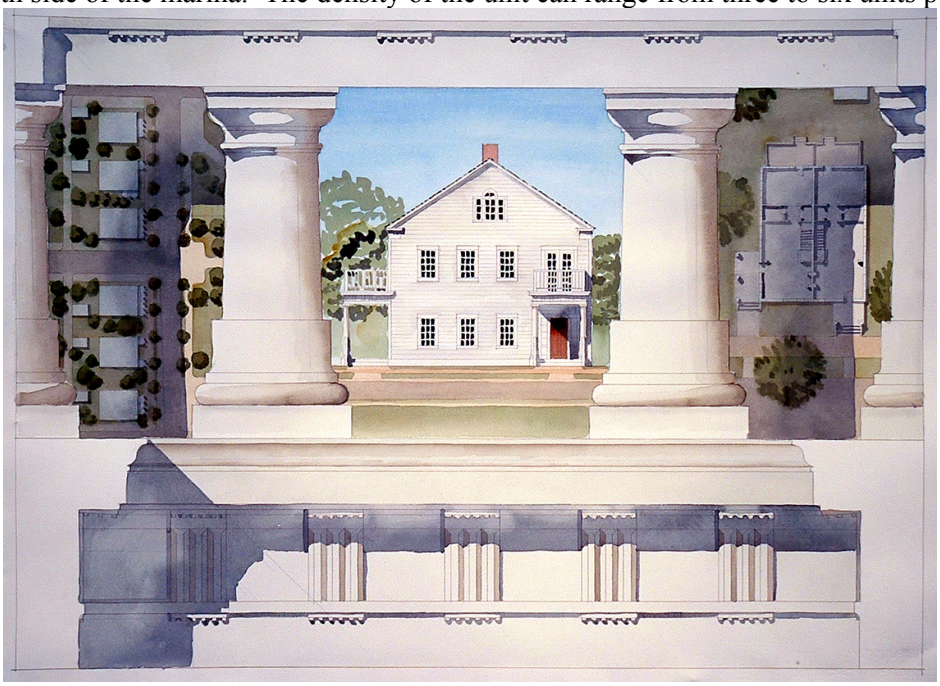
9.1.44
Town Green: View from the North. The town green captures the feeling of the traditional town green in New England with a certain informal quality surrounded by harmonious architecture. Big Pond Boathouse can be seen in the background.

9.1.45
Analytique: Church. The church uses the New England meetinghouse as inspiration for the design. The church is non-denominational. It serves as a symbol in the new town; a symbol very identifiable with traditional New England.

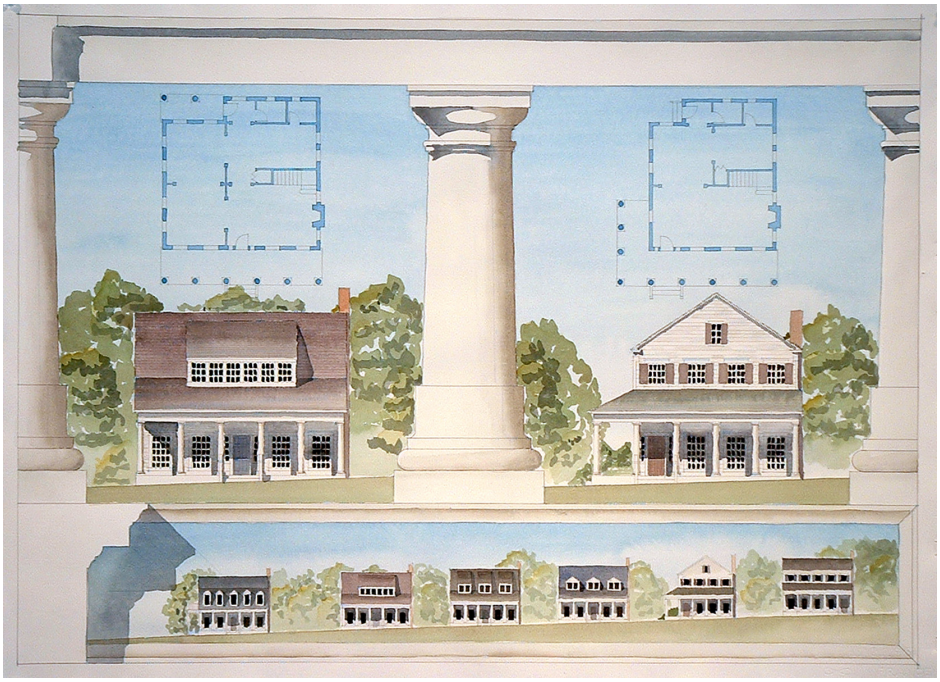


9.1.46
Analytique: Granite Wharf Building. This large commercial building lines the marina and serves to house multiple commercial options.

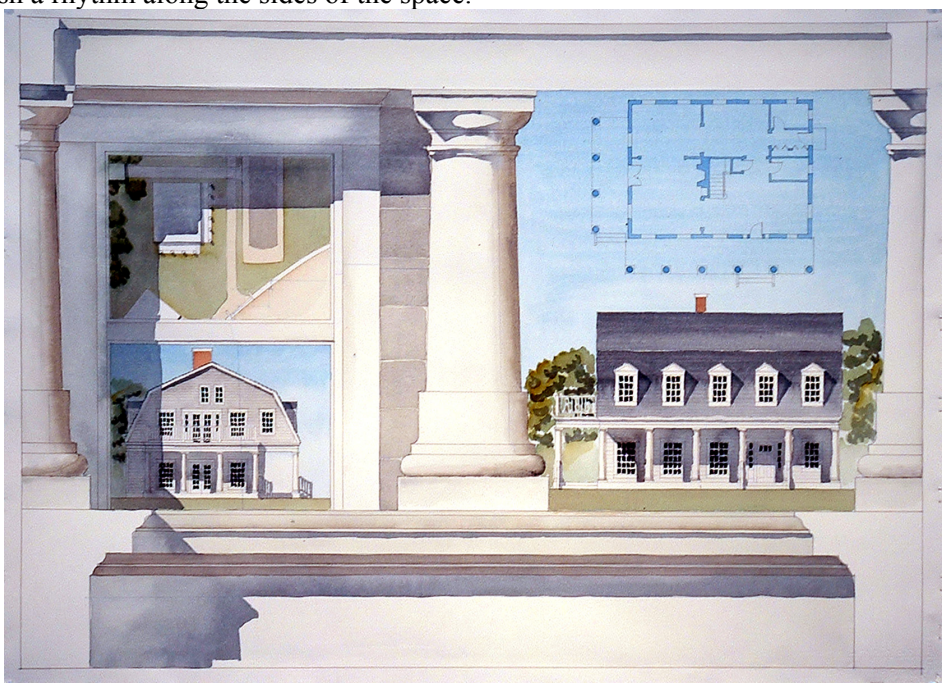
9.1.47
Analytique: Apartment Unit. This unit is an example of the apartments and condos that line the north side of the marina. The density of the unit can range from three to six units per lot.



9.1.48
Analytique: Multi-family Unit. The multi-family units are located around the town square, the town green, and line the main street leading to the marina. Both the multi-family units and apartment/condo units offer a variety of housing types which increase socio-economic diversity.



9.1.49
Analytique: Lawn Houses. The houses around the lawn are specifically design to create a harmonious relationship between space and building. Colonnades line the front façade to establish a rhythm along the sides of the space.



9.1.50
Analytique: Beachside House. Housing types close to the water are designed to take advantage of views and porch conditions.

CHAPTER 10: FINAL PRAGMATIC ISSUES

This chapter addresses some of the final pragmatic specifications of the proposed design. Information such as: units per acre, people per acre, lots per acre, percent of coverage on the lot, type of residential unit, comparisons between the current planning ideology of the region and the proposed planning ideology of this thesis as well as other information is outlined in the following tables.

10.1 – Proposed Development Data:

The typical lot for this proposal measures 60' wide by 90' deep. These dimensions accommodate a range of building types, from small single-family cottage types to large mutli-family and condo types with appropriate space for parking and yards. The lot dimensions vary, either larger than the typical, or as small as 45' wide by 65' deep. Obviously, this changes the type of unit the lot can accept. The variation in the typical lot is an intentional design decision based on other factors such as desired changes in density, changes in unit types, or specific site or urban conditions that require such alterations. Designing a range of types increases diversity in both urban experience and architecture on the lot.

The commercial lots are slightly different than the residential. The typical general commercial lot measures 30' wide and varies in depth from 80' to 90'. The width of the commercial lot remains constant throughout the new town, except in locations where necessary urban requirements out-weigh the proposed 30' width. The 30' width is a result of several factors: 30' is a generous minimum to allow for a small single retail building; the width is also a positive rhythmic dimension for retail

frontage; the distance is half the typical residential lot and if required, a residential lot could be rezoned for commercial use, changed to two lots, and be adapted to code requirements; a small lot unit also offers the opportunity for a developer to buy multiple lots and use them together which varies urban, architectural, and commercial types.

The density of single-family units average 9-10 per acre. The typical coverage on the lot is 25%. Unit dimensions range from 1,200 sq. ft. to 2,800 sq. ft. for typical single-family residential units, which vary from smaller cottage types to larger homes. For mansions, the unit dimensions exceed 3,000 sq. ft.

Multi-family unit density averages 18-20 per acre with typical coverage of 36%. Unit dimensions are approximately 1,500 – 2,000 sq. ft per unit. Apartment and/or condo unit density averages 28 per acre, depending upon the type of apartment or condo and the individual unit; one bedroom, two bedroom, etc. Typical coverage on the lot is 40% with a maximum of three stories. Unit dimensions range from 1,000 sq. ft. to 1,600 sq. ft.

Multiple unit types result in different densities at various locations. Around the marina, for example, the density of residential units is 20+. This figure includes both apartment/condo units and multi-family units. The town square also has a higher density at +14 units per acre, balancing both multi- and single-family units around the square. The typical single-family residential block density varies between 6 and 10 units per acre. The number of units per acre and density varies greatly relative to location within the plan without requiring the typical lot to change dramatically.

The general commercial lots total 18 per acre. The number of commercial units is based on what the community is most likely to sustain; a total of 50,000 sq. ft. of general commercial with an additional 100,000 sq. ft. of specialty commercial. Specialty commercial includes functions such as hotels, cottage rentals, large-scale restaurants and clubs, etc. The typical depth of the commercial unit is measured at 55', providing space in the rear for service and private parking. The depth of the commercial unit is permitted to vary. Commercial lots are also serviced by an alley system.

Additional development data that summarizes site area, site percentages, lot count, etc. is shown in Table 10.1.1.

Proposed Development Data:	
Total site area	280 acres
Private lot coverage	80 acres - 28.6%
Public throughway (includes streets, sidewalks, pedestrian areas, alleys, access paths and corridors)	70 acres - 25%
Public open space, amenity, and recreation	65 acres - 23.2%
Natural landscape	52 acres - 18.6%
Water	13 acres - 4.6 %
Total number of residential lots	633 lots
Lot types	single-family multi-family apartment/condo farm
Total commercial square footage	150,000 sq. ft.
Units per acre	8.6 units per acre
People per acre	21 people per acre
Lot size	3,700 - 7,600 (average 5,400 sq. ft.)
Lots per acre	8 lots per acre
% of lot coverage by building	20% - 60%
F.A.R.	0.5 to 2

Table 10.1.1. Proposed Development Data.

The total site area measures 280 acres contained within the site boundaries. Of the 280 acres, 80 acres (28.6%) are private lot coverage, which includes private residential lots, private commercial lots, and public and civic lots. Public throughway area is approximately 70 acres (25%), which includes streets, sidewalks, pedestrian areas, alleys, access paths, and corridors. Public open space, amenity, and recreation is maximized at 65 acres (23.2%.) 52 acres (18.6%) of natural landscape is preserved as-is in the watershed areas and near the shore. (This figure clearly demonstrates a substantial environmental preservation effort.) The existing ponds are maintained and utilized for functional, recreational, and environmental purposes. They make up the remaining 13 acres (4.6%) of the site.

The number of residential lots in the master plan totals 633, which accommodate single-family, multi-family, farm, and apartment/condo types. Of the built area of the site, density exceeds eight-plus units per lot. According to current demographics, this unit-per-lot count would yield 21 people per acre. However, given the proposed demographics (Refer to Chapter 7) this thesis incorporates, it is conceivable to estimate 25-30 people per acre. More specific population and unit-count data is summarized in Table 10.1.2.

Unit Count:	
Total Residential Lots	633
Total apartment/condo lots	9
Total apartment/condo units	29
Total multi-family semi-detached lots	38
Total multi-family semi-detached units	76
Total farm lots (average 1.75 acres for farming)	6
Total farm units	6
Total single-family lots	623
Total single-family units	623
Total Residential Units	691
General commercial lots	31
General commercial square footage	50,000
Special commercial square footage	100,000
Total commercial square footage	150,000
People per household (based on current demographic data)	2.49
Projected number of residents	1721

Table 10.1.2. Unit Count Data.

Of the 633 total residential lots, 9 are apartment/condo lots, 38 are multi-family lots, 6 are farm lots, and the remaining 623 are single-family lots. These lots yield 29 apartment/condo units, 76 multi-family units, 6 farm units, and 623 single-family units, for a total of 691 residential units on the site. Based on current demographic data, the unit count would equal 1,721 residents. However, as mentioned, the people-per-household is designed to be greater than the current demographics, and as such, 2,000+ people could easily reside in this development.

The proposed planning ideology and the current poor planning ideology are compared in Table 10.1.3, illustrating that functionally, economically, and environmentally the proposed planning ideology is superior.

Comparative Development Data:		
	Current planning ideology (Sprawl in Connecticut)	Proposed planning ideology
Gross site area	225 acres	225 acres
Throughway area	22 acres - 10% (only roads)	70 acres - 25% (includes streets, sidewalks pedestrian areas, alleys, access paths and corridors)
Common open space	None	65 acres - 23.2% (includes open space, amenity and recreation)
Number of residential units	1.5 per acre	8.6 per acre
Type of residential units	single-family	single-family multi-family apartment/condo farm
Commercial sq. ft.	None	150,000 sq. ft.
Floor area per unit	1,800 - 2,200	1,000 - 2,400
Coverage on lot	2.2% of lot	20% - 60% of lot
People per acre	3.75 people	21 people
Sq. ft. per acre	3,600 sq. ft. per acre	20,000 sq. ft. per acre
Yields	304 units on site	691 units on site plus 150,000 sq.ft. commercial plus specific institutional plus 65 acres common open space plus 52 acres preserved natural landscape

Table 10.1.3. Comparative Development Data.

The current planning ideology is derived from the current state of planning in the region. The table compares the two planning ideologies based on a 225-acre site. While the current planning ideology requires much less throughway area, the result is a sprawling development which consumes large areas of natural environments to satisfy the planned need of 1.5 units per acre. The proposed planning ideology more that double the throughway area, yet provides a network of streets and pedestrian environments not provided in the current planning methods. The proposed planning ideology yields 65 acres of public open space, including public open space, amenity,

and recreation, as compared to none in the current planning ideology. Further, 52 acres of natural landscapes are preserved in the proposed development; no acreage is preserved in the current planning methods. Though 90% of the acreage is made available for private lots with the current planning ideology, only 1.5 units per acre are planned resulting in 304 mono-functional units on the site. The proposed planning ideology develops 28.6% of the acreage for private lots that yields 691 multi-functional residential units, plus 150,000 sq. ft. of commercial, plus institutional and civic buildings on the site with the potential to increase density dramatically when compared with existing ideology.

10.2 – Sustainability Issues:

The master plan attempts to maximize development potential while minimizing environmental impact on the site. 52 acres of existing natural environments are preserved in the watershed areas of the development and at the shore. Man-made landscapes and the built environments are designed with sustainability issues in mind. Table 10.2.1 outlines land coverage types and benefits.

Land Coverage Type:	
Of the 215 gross built and landscaped area on site:	
Building coverage	11.60%
Asphalt and non-porous hardscape	16.30%
Rock, shell, and sand	13.00%
Porous hardscape	11.60%
Turf grass	35.50%
Rough grass	12%
Special Notes:	
Minimize the potential increase of surface tempurature by minimizing hardscape	
Minimize surface water runoff by maximizing porous surfaces	
Allow multiple types of landscapes in open spaces, amenities, and recreational spaces to increase biodiversity	

Table 10.2.1. Land Coverage Types.

The amount of building coverage is limited to prevent sprawl into the natural landscape. Asphalt and non-porous hardscapes are minimized to reduce surface runoff. Porous hardscapes, rock, shell, sand, and grasses are used to create permeable surfaces to allow for rainwater and runoff to penetrate the earth. Minimizing hardscapes reduces surface tempurature. Multiple types of landscapes in open areas, amenities, and recreational spaces increase biodiversity. The topography, street grids, street sections, paving, and watershed areas are utilized to manage surface runoff and site drainage. Two water treatment facilities are placed at the mouths of Armstrong Brook and Big Pond to reduce pollution and treat the water as it enters the natural environment.

The master plan and planning ideology promotes walking and cycling, promotes living and working in the same area, incorporates public transportation via the commuter train, reduces the dependence on the automobile which in turn reduces

the consumption of fossil fuels, automobile congestion, pollution of air and water, the required number of arterial roads for access, and the total energy required for a day's activities.

The architectural and urban code (Refer to Chapter 11) outline design suggestions which decrease energy consumption in the building. Colonnades, porches, and landscape elements provide solar shading on the south and west sides of the building during the summer months. During the winter months, these elements are designed to allow for solar gain. New technologies such as solar panels are also provided for in the urban and architectural codes. Natural ventilation of rooms and entire buildings is required. These issues respond to the site's microclimate and ecology.

10.3 – Engineering:

Issues relative to manipulating the topography were a large part of the design process in order to make the design pragmatically possible while preserving existing site conditions to ensure the development is site-dependent.

Street grades are designed to take advantage of the existing conditions while appropriately accommodating automobile and pedestrian traffic. The few steep cross streets do not exceed 7.8% in grade and have no frontage. Perpendicular streets with residential and commercial frontage do not exceed 5%. No private lots are required to accommodate more than a 7'-0" grade change.

The majority of the site (80%+) is manipulated to drain water into the watershed areas or to the two water treatment plants. Paving, street sections, and

pedestrian corridors are designed to channel the water that does not permeate back into the earth to locations which can naturally or artificially treat the water.

Any volume of earth that is cut away is put back on the site in grading efforts.[18] Seawalls are designed to protect buildings and lots by creating a grade change which elevates the building site above the flood plane elevation of 12'-0". The seawalls protect the land from crashing waves during storms and serve as retaining walls to prevent erosion.

10.4 – Program:

The functional considerations and program of the thesis project are related to the size of the community as well as the type of community the design attempts to create. A comprehensive town plan must contain the necessary functions that allow the town to be independent, productive, accommodating, and prosperous.

Using the traditional New England town as precedent, this development accommodates the daily, weekly, and monthly needs of each citizen while providing diversions and entertainment. In traditional models, the city is based on a public realm and a private realm: both necessary to the city, both dependent upon each other. The town is designed to accommodate a range of programmatic requirements. Good urban planning allows for fluctuating program because over time, changes in land-use inevitably occur. Table 10.4.1 is a list of programmatic elements including required square footage, functions, number, and parking. Some of these elements are essential to the design of a traditional town, such as the town hall, the church, public spaces, etc. Some of these elements are conditional. They could be altered, changed,

[18] This excludes the earth dredged out of the marina.

enhanced, or eliminated without altering the overall master plan. There are admittedly other programmatic elements not on the list that could be incorporated into the town plan if needed.

Proposed Programmatic Elements:	
Marina	4.5 acres
Private slips	22 slips
Public slips	10 slips
Hotel slips	11 slips
Rental slips	6 slips
Boathouse	5,000 sq. ft.
Laundry, showers, supplies, etc	
Cruises, tickets, tourism	
Mechanic, maintenance, and boat building	9,000 sq. ft.
Recreational	1,500 ln. ft. of promenade
Parking	on-street and municpal
Commercial	150,000 sq. ft.
Gifts, collectables	
Antiques	
Small shops	
Restaurants	
Tourism	
Parking	on street and municipal
Library and Auditorium	40,000 sq. ft.
Community library	
Historical Society	
Public Auditorium	
Research Institute	
Parking	28 spaces on site plus on-street and municipal
Post Office	4,000 sq. ft.
Parking	5 spaces on site plus on-street and municipal
Church	12,000 sq. ft.
Catholic, Baptist, Lutheran, Protestants demominations with Sacristy and offices	
Parking	30 spaces plus on-street

Spa		15,000 sq. ft.
	Parking	on-street
Greenhouse		2,000 sq. ft.
Recreational boathouse		1,600 sq. ft.
Casino		40,000 sq. ft.
	Restaurants	
	Cafes	
	Halls	
	Lounges	
	Guest Rooms	
	Auditorium	
	Parking	40 spaces
Chapel		2,000 sq. ft.
Water Treatment Facilities (2)		4,500 sq. ft. each
Gallery and Museum		20,000 sq. ft.
	Parking	on-street and municpal
Granite Wharf Commercial Building		100,000 sq. ft.
	Retail	60,000 sq. ft.
	Office	40,000 sq. ft.
	Parking	on-street and municipal
Yacht Club		20,000 sq. ft.
	Parking	on-street and municipal
Workshops (5)		1,000 sq. ft. each
	Storage	200 sq. ft. each
	Parking	on lot
Community Beach Center		7,000 sq. ft.
	Parking	on-street
Day Care and Children's Facility		6,000 sq. ft.
	Playground	
	Boating	
	Swimming	
	Parking	on-street

Recreation Facility		30,000 sq. ft.
	Cycling	Basketball
	Tennis	Baseball
	Hiking	Swimming
	Beach related	Indoor gym
	Classes	Volleyball
	Parking	54 spaces + on-street
Bed and Breakfast		24,000 sq. ft.
	Parking	33 spaces
Hotel		75,000 sq. ft.
	Banqueting facilities	10,000
	Rental units	13 at 1,200 sq. ft.
	Marina slips	11 slips
	Parking	54 spaces
Lighthouse		
Fire Station		3,800 sq. ft.
	Parking	4 spaces
Town Hall		8,000 sq. ft.
	Parking	5 admin + on-street
Train Station		12,000 sq. ft.
	Parking	50 spaces
Grocery		8,000 sq. ft.
	Provides local daily and weekly needs	
	Serves local specialties	
	Parking	27 spaces plus on-street
Movies		3,000 sq. ft.
	2 small theaters	
	Ability to show movies on beach in summer	
	Parking	on-street
Golf Club House		9,000 sq. ft.
	Parking	40 spaces
Boat Storage		16,000 sq. ft.

Table 10.4.1. Program.

CHAPTER 11: URBAN AND ARCHITECTURAL CODE

This chapter contains the urban and architectural code produced for the new town. The codes are both written and graphic for the sake of clarity. The urban code addresses set-back, exceptions to set-back, height limits, yard area, outbuildings, build-to specifications, trees, parking, special conditions for each lot, paving, drainage, and street sections with dimensions and restrictions. Each lot is identified by a letter, number, and type title. The color-coded master plan in Chapter 9 graphically displays where each type is located in the design. The architectural code addresses exterior forms, foundations, roofs, openings, exterior materials, moldings, and details relative to construction. Both the architectural and urban codes (Plates 135 to 176 at the end of this chapter) are to be used together to channel design and construction effort.

11.1 – Rationale for the Codes:

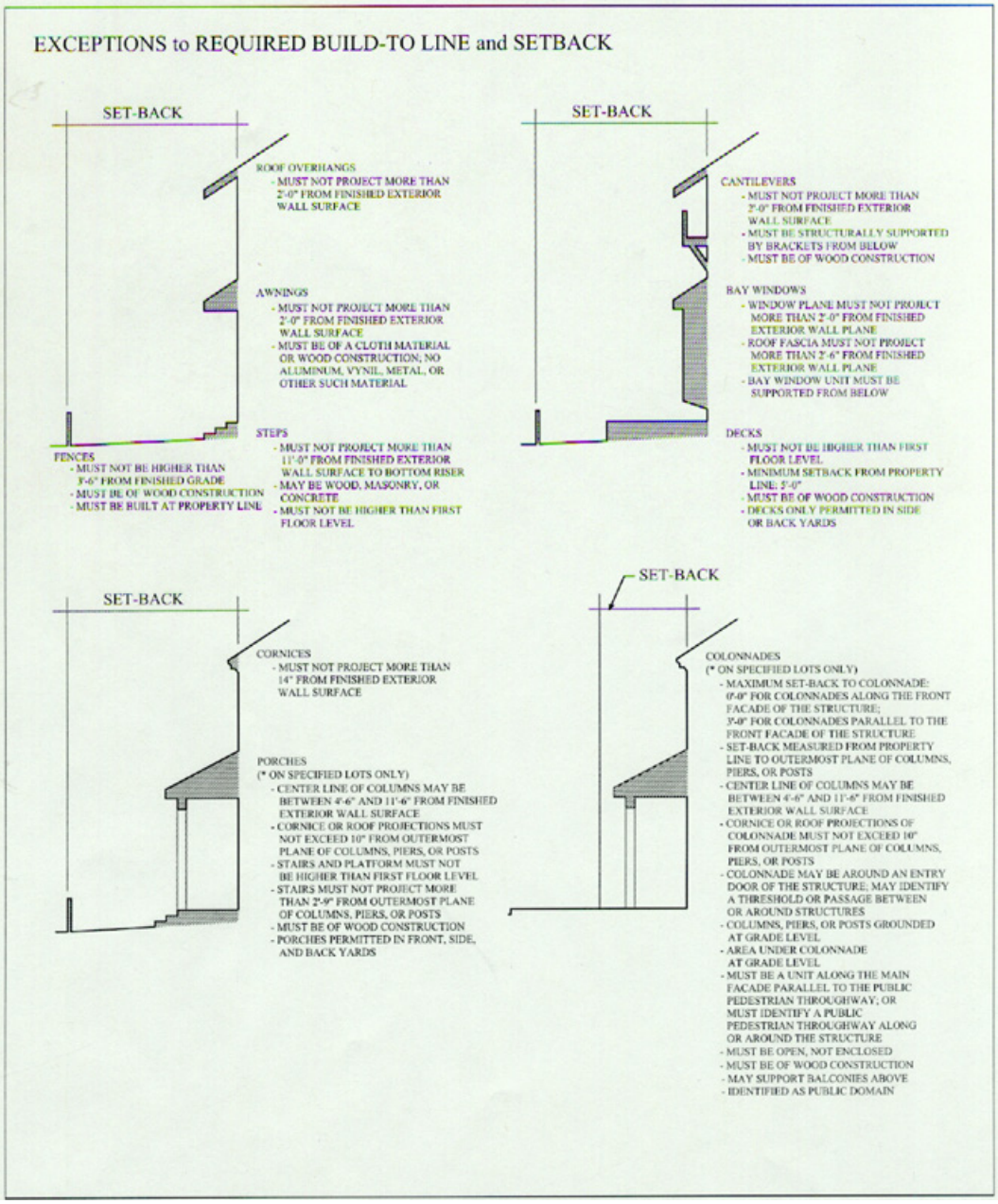
Any comprehensive plan for development is incomplete without consideration of how the design will come to being. Further, a master plan does not end with the street grid and lot lines, it is much more, considering issues from the regional scale to the architectural in order to create a complete and harmonious whole.

Following the rules of architectural and urban code achieves several goals. The codes are written to continue the existing tradition of New England based on forms, typologies, architectural elements, urban elements, and construction methods. Being explicit in the code clearly establishes predictable three-dimensional forms, details, and construction methods that are uniform throughout the design. This then

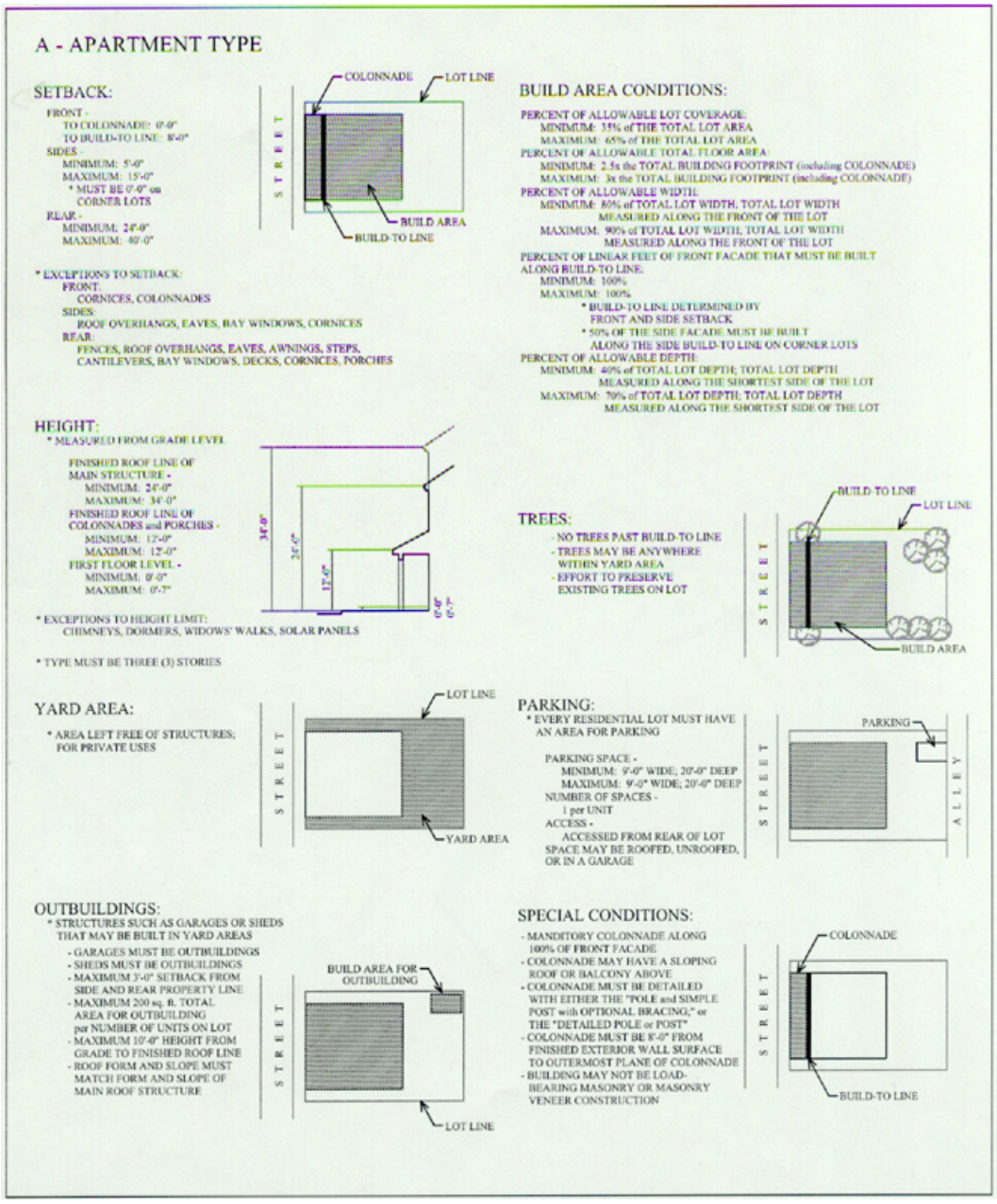
produces and maintains a harmonious character and experience within the built environment. Basing the code on tradition and precedents found in the region creates a direct connection to the rest of New England. The codes intentionally acknowledge, respect, and value history. Together they help to design a built environment that is recognizable to the citizen and visitor.

Criticism of the codes may come from the belief that they are too strict and the private citizen is prevented from exercising a degree of freedom on private property. However, the code doesn't take away freedom, it merely establishes guidelines that one must work with. Further, when people choose to live together, they must agree on a way to live. This is true in politics, economics, social conventions, *and* architecture and urbanism.

Finally, the codes make no claim that they are for every built environment. In fact, the codes are only appropriate in this specific design. Different codes would be needed for different conditions. They, along with the master plan, offer this particular option of living in this specific place. They also offer an alternative to the current planning and architectural ideology. If a next step could be taken regarding these codes, it would be useful to test them in the context of the master plan to determine their success.



11.1.1
Exceptions to Set-back.

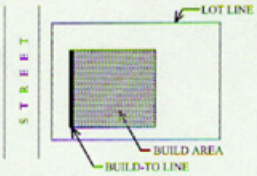


11.1.2
Apartment Type.

B-1 - MULTI-FAMILY SEMI-DETACHED TYPE

SETBACK:

FRONT -
TO BUILD-TO LINE: 8'-0"
SIDES -
MINIMUM: 5'-0"
MAXIMUM: 20'-0"
* MUST BE 10'-0" on CORNER LOTS
REAR -
MINIMUM: 24'-0"
MAXIMUM: 36'-0"



* EXCEPTIONS TO SETBACK:
FRONT:
FENCES, ROOF OVERHANGS, EAVES, STEPS, CORNICES, PORCHES
SIDES:
FENCES, ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, BAY WINDOWS, DECKS, CORNICES, PORCHES
REAR:
FENCES, ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, BAY WINDOWS, DECKS, CORNICES, PORCHES

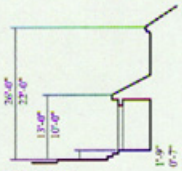
BUILD AREA CONDITIONS:

PERCENT OF ALLOWABLE LOT COVERAGE:
MINIMUM: 35% of THE TOTAL LOT AREA
MAXIMUM: 50% of THE TOTAL LOT AREA
PERCENT OF ALLOWABLE TOTAL FLOOR AREA:
MINIMUM: 2x the TOTAL BUILDING FOOTPRINT
MAXIMUM: 2.5x the TOTAL BUILDING FOOTPRINT
PERCENT OF ALLOWABLE WIDTH:
MINIMUM: 60% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
MAXIMUM: 65% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
PERCENT OF LINEAR FEET OF FRONT FACADE THAT MUST BE BUILT ALONG BUILD-TO LINE:
MINIMUM: 100%
MAXIMUM: 100%
* BUILD-TO LINE DETERMINED BY FRONT AND SIDE SETBACK
* 50% OF THE SIDE FACADE MUST BE BUILT ALONG THE SIDE BUILD-TO LINE ON CORNER LOTS
PERCENT OF ALLOWABLE DEPTH:
MINIMUM: 40% of TOTAL LOT DEPTH; TOTAL LOT DEPTH MEASURED ALONG THE SHORTEST SIDE OF THE LOT
MAXIMUM: 60% of TOTAL LOT DEPTH; TOTAL LOT DEPTH MEASURED ALONG THE SHORTEST SIDE OF THE LOT

HEIGHT:

* MEASURED FROM GRADE LEVEL

FINISHED ROOF LINE OF MAIN STRUCTURE -
MINIMUM: 22'-0"
MAXIMUM: 26'-0"
FINISHED ROOF LINE OF COLONNADES and PORCHES -
MINIMUM: 10'-0"
MAXIMUM: 13'-0"
FIRST FLOOR LEVEL -
MINIMUM: 0'-7"
MAXIMUM: 1'-9"

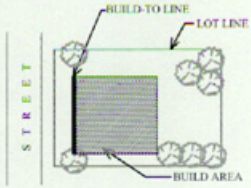


* EXCEPTIONS TO HEIGHT LIMIT:
CHIMNEYS, DORMERS, WIDOWS' WALKS, SOLAR PANELS

* TYPE MUST BE TWO (2) to THREE (3) STORIES

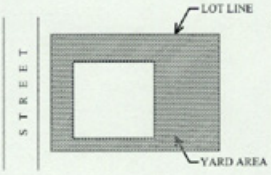
TREES:

- NO TREES PAST BUILD-TO LINE
- TREES MAY BE ANYWHERE WITHIN YARD AREA
- EFFORT TO PRESERVE EXISTING TREES ON LOT



YARD AREA:

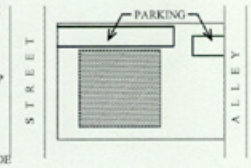
* AREA LEFT FREE OF STRUCTURES; FOR PRIVATE USES



PARKING:

* EVERY RESIDENTIAL LOT MUST HAVE AN AREA FOR PARKING

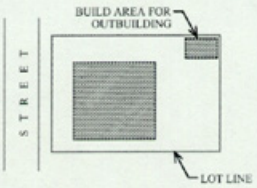
PARKING SPACE -
MINIMUM: 9'-0" WIDE; 20'-0" DEEP
MAXIMUM: 16'-0" WIDE; 20'-0" DEEP
NUMBER OF SPACES -
1 per UNIT MINIMUM
ACCESS -
ACCESSED FROM REAR OF LOT or FROM FRONT OF LOT
ACCESS DRIVE MAXIMUM 8'-0" WIDE
SPACE MAY BE UNROOFED OR IN A GARAGE



OUTBUILDINGS:

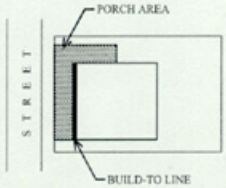
* STRUCTURES SUCH AS GARAGES OR SHEDS THAT MAY BE BUILT IN YARD AREAS

- GARAGES MUST BE OUTBUILDINGS
- SHEDS MUST BE OUTBUILDINGS
- MAXIMUM 3'-0" SETBACK FROM SIDE AND REAR PROPERTY LINE
- MAXIMUM 200 sq. ft. TOTAL AREA FOR OUTBUILDING per NUMBER OF UNITS ON LOT
- MAXIMUM 10'-0" HEIGHT FROM GRADE TO FINISHED ROOF LINE
- ROOF FORM AND SLOPE MUST MATCH FORM AND SLOPE OF MAIN ROOF STRUCTURE



SPECIAL CONDITIONS:

- MANDITORY PORCH ALONG FRONT AND/OR SIDE FACADE
MINIMUM: 64 sq. ft. per UNIT
MAXIMUM: 280 sq. ft. TOTAL
- PORCH MAY HAVE A SLOPING ROOF OR BALCONY ABOVE
- PORCH MUST BE DETAILED WITH ANY OPTION OF THE ORDERS
- PORCH MUST BE MINIMUM 5'-0"; MAXIMUM 8'-0" FROM FINISHED EXTERIOR WALL SURFACE TO OUTERMOST PLANE OF PORCH

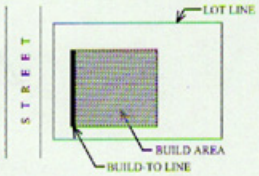


11.1.3
Multi-Family Type B-1.

B-2 - MULTI-FAMILY SEMI-DETACHED TYPE

SETBACK:

FRONT -
TO BUILD-TO LINE: 12'-0"
SIDES -
MINIMUM: 5'-0"
MAXIMUM: 20'-0"
* MUST BE 10'-0" on CORNER LOTS
REAR -
MINIMUM: 24'-0"
MAXIMUM: 36'-0"



* EXCEPTIONS TO SETBACK:
FRONT:
FENCES, ROOF OVERHANGS, EAVES, STEPS, CORNICES, PORCHES
SIDES:
FENCES, ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, BAY WINDOWS, DECKS, CORNICES, PORCHES
REAR:
FENCES, ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, BAY WINDOWS, DECKS, CORNICES, PORCHES

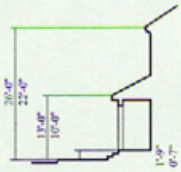
BUILD AREA CONDITIONS:

PERCENT OF ALLOWABLE LOT COVERAGE:
MINIMUM: 40% of THE TOTAL LOT AREA
MAXIMUM: 50% of THE TOTAL LOT AREA
PERCENT OF ALLOWABLE TOTAL FLOOR AREA:
MINIMUM: 2x the TOTAL BUILDING FOOTPRINT
MAXIMUM: 2.5x the TOTAL BUILDING FOOTPRINT
PERCENT OF ALLOWABLE WIDTH:
MINIMUM: 60% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
MAXIMUM: 65% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
PERCENT OF LINEAR FEET OF FRONT FACADE THAT MUST BE BUILT ALONG BUILD-TO LINE:
MINIMUM: 100%
MAXIMUM: 100%
* BUILD-TO LINE DETERMINED BY FRONT AND SIDE SETBACK
* 50% OF THE SIDE FACADE MUST BE BUILT ALONG THE SIDE BUILD-TO LINE ON CORNER LOTS
PERCENT OF ALLOWABLE DEPTH:
MINIMUM: 40% of TOTAL LOT DEPTH; TOTAL LOT DEPTH MEASURED ALONG THE SHORTEST SIDE OF THE LOT
MAXIMUM: 60% of TOTAL LOT DEPTH; TOTAL LOT DEPTH MEASURED ALONG THE SHORTEST SIDE OF THE LOT

HEIGHT:

* MEASURED FROM GRADE LEVEL

FINISHED ROOF LINE OF MAIN STRUCTURE -
MINIMUM: 22'-0"
MAXIMUM: 26'-0"
FINISHED ROOF LINE OF COLONNADES and PORCHES -
MINIMUM: 10'-0"
MAXIMUM: 13'-0"
FIRST FLOOR LEVEL -
MINIMUM: 0'-7"
MAXIMUM: 1'-9"

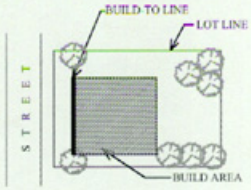


* EXCEPTIONS TO HEIGHT LIMIT:
CHIMNEYS, DORMERS, WIDOWS' WALKS, SOLAR PANELS

* TYPE MUST BE TWO (2) to THREE (3) STORIES

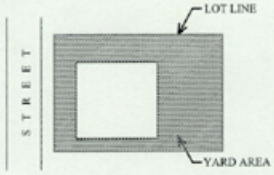
TREES:

- NO TREES PAST BUILD-TO LINE
- TREES MAY BE ANYWHERE WITHIN YARD AREA
- EFFORT TO PRESERVE EXISTING TREES ON LOT



YARD AREA:

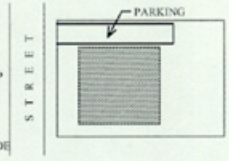
* AREA LEFT FREE OF STRUCTURES; FOR PRIVATE USES



PARKING:

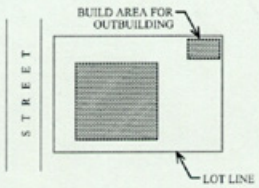
* EVERY RESIDENTIAL LOT MUST HAVE AN AREA FOR PARKING

PARKING SPACE -
MINIMUM: 9'-0" WIDE; 20'-0" DEEP
MAXIMUM: 16'-0" WIDE; 20'-0" DEEP
NUMBER OF SPACES -
1 per UNIT MINIMUM
ACCESS -
ACCESSED FROM FRONT OF LOT
ACCESS DRIVE MAXIMUM 8'-0" WIDE
SPACE MAY BE UNROOFED OR IN A GARAGE



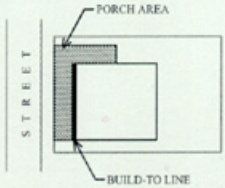
OUTBUILDINGS:

* STRUCTURES SUCH AS GARAGES OR SHEDS THAT MAY BE BUILT IN YARD AREAS
- GARAGES MUST BE OUTBUILDINGS
- SHEDS MUST BE OUTBUILDINGS
- MAXIMUM 3'-0" SETBACK FROM SIDE AND REAR PROPERTY LINE
- MAXIMUM 200 sq. ft. TOTAL AREA FOR OUTBUILDING per NUMBER OF UNITS ON LOT
- MAXIMUM 10'-0" HEIGHT FROM GRADE TO FINISHED ROOF LINE
- ROOF FORM AND SLOPE MUST MATCH FORM AND SLOPE OF MAIN ROOF STRUCTURE

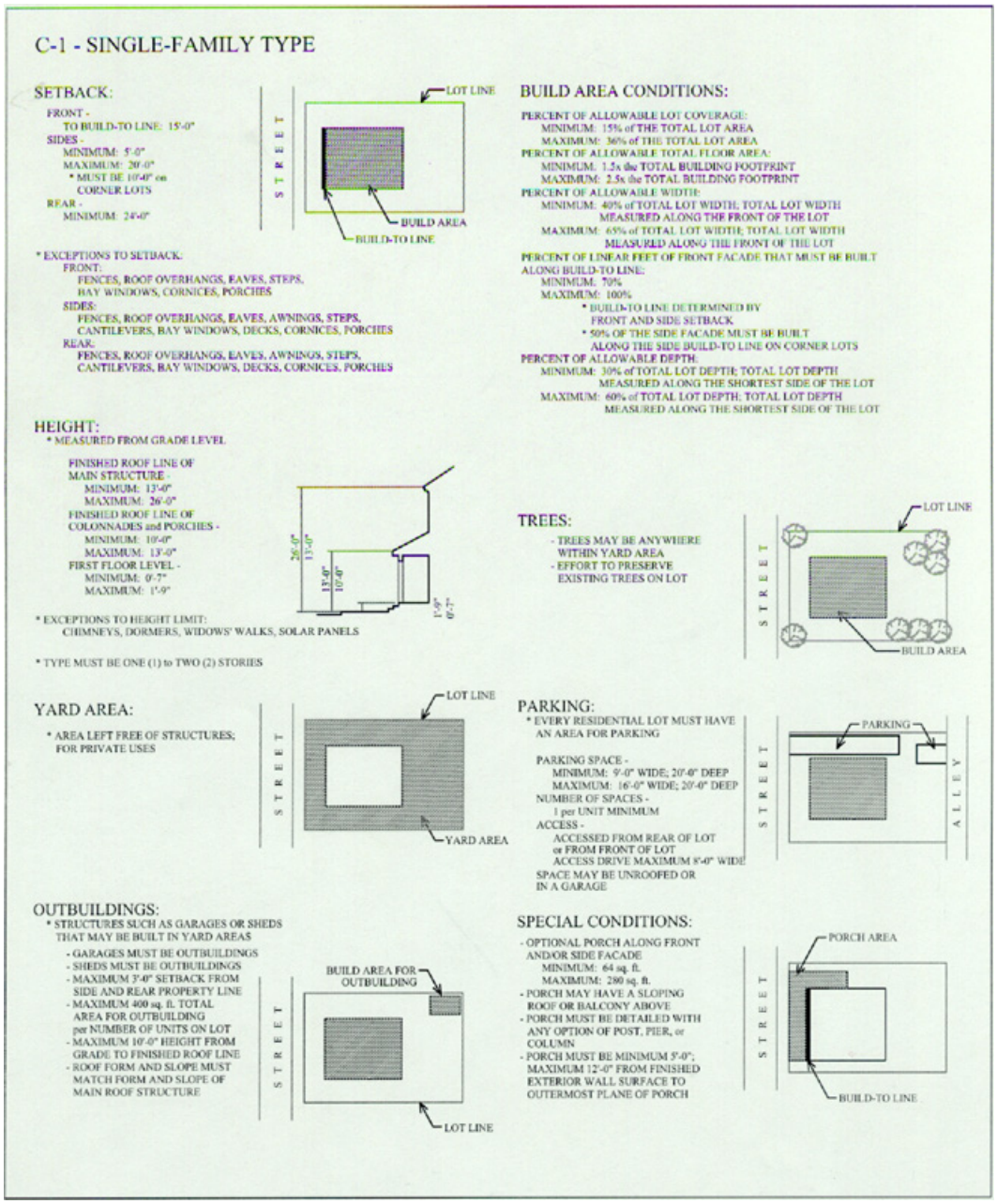


SPECIAL CONDITIONS:

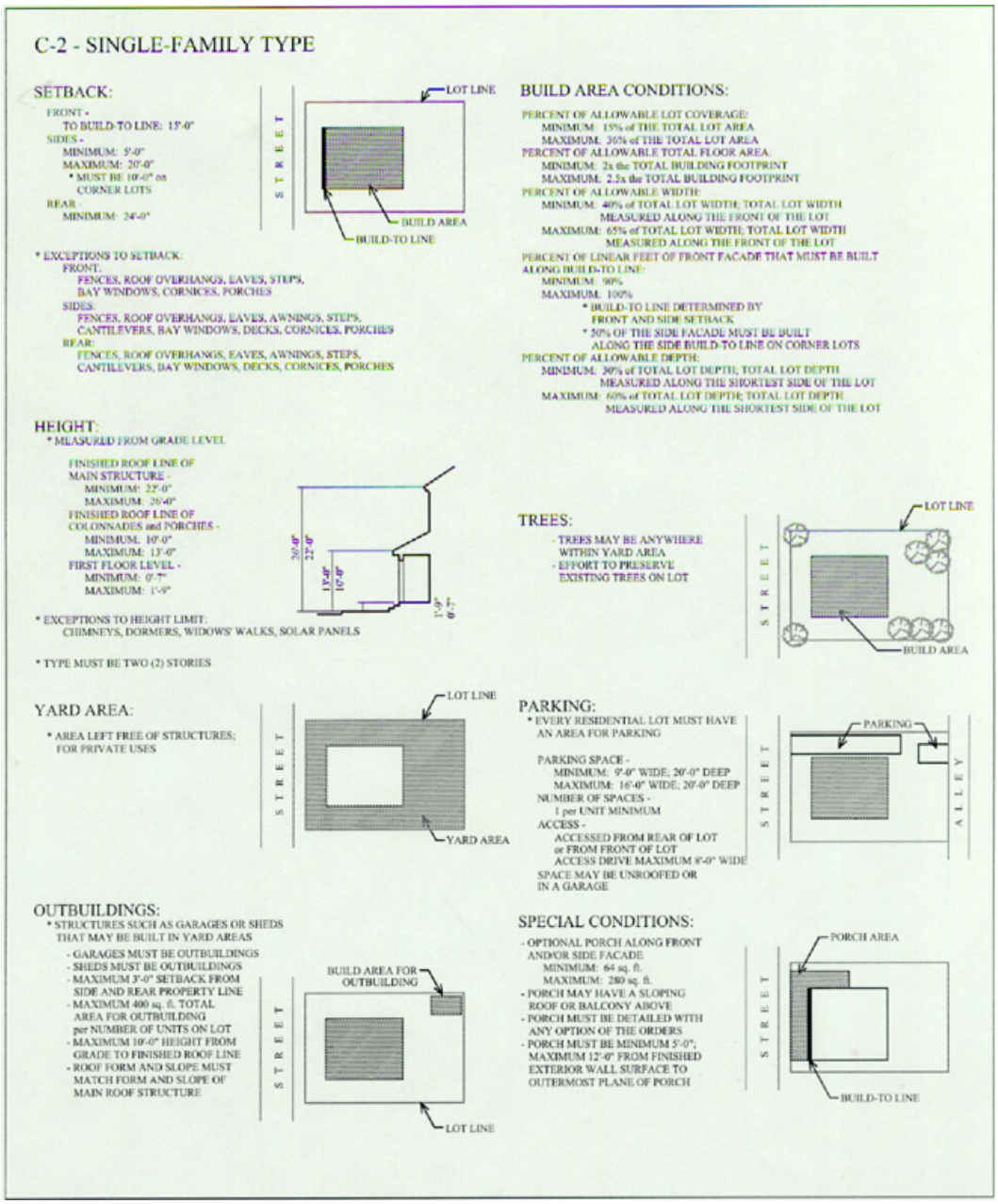
- MANDITORY PORCH ALONG FRONT AND/OR SIDE FACADE
MINIMUM: 64 sq. ft. per UNIT
MAXIMUM: 280 sq. ft. TOTAL
- PORCH MAY HAVE A SLOPING ROOF OR BALCONY ABOVE
- PORCH MUST BE DETAILED WITH ANY OPTION OF THE ORDERS
- PORCH MUST BE MINIMUM 5'-0"; MAXIMUM 8'-0" FROM FINISHED EXTERIOR WALL SURFACE TO OUTERMOST PLANE OF PORCH
- BUILDING MAY NOT BE LOAD-BEARING MASONRY OR MASONRY VENEER CONSTRUCTION



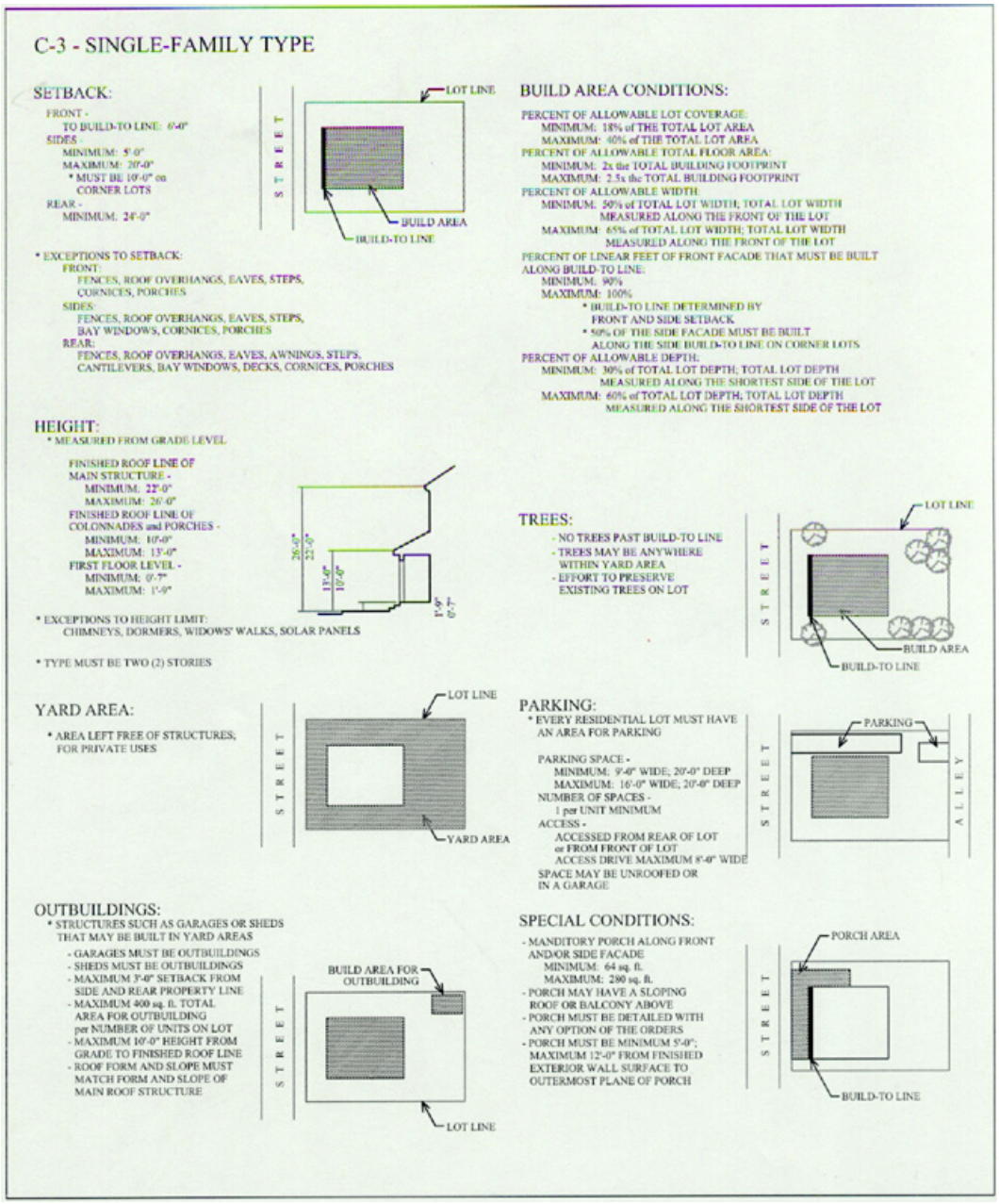
11.1.4
Multi-Family Type B-2.



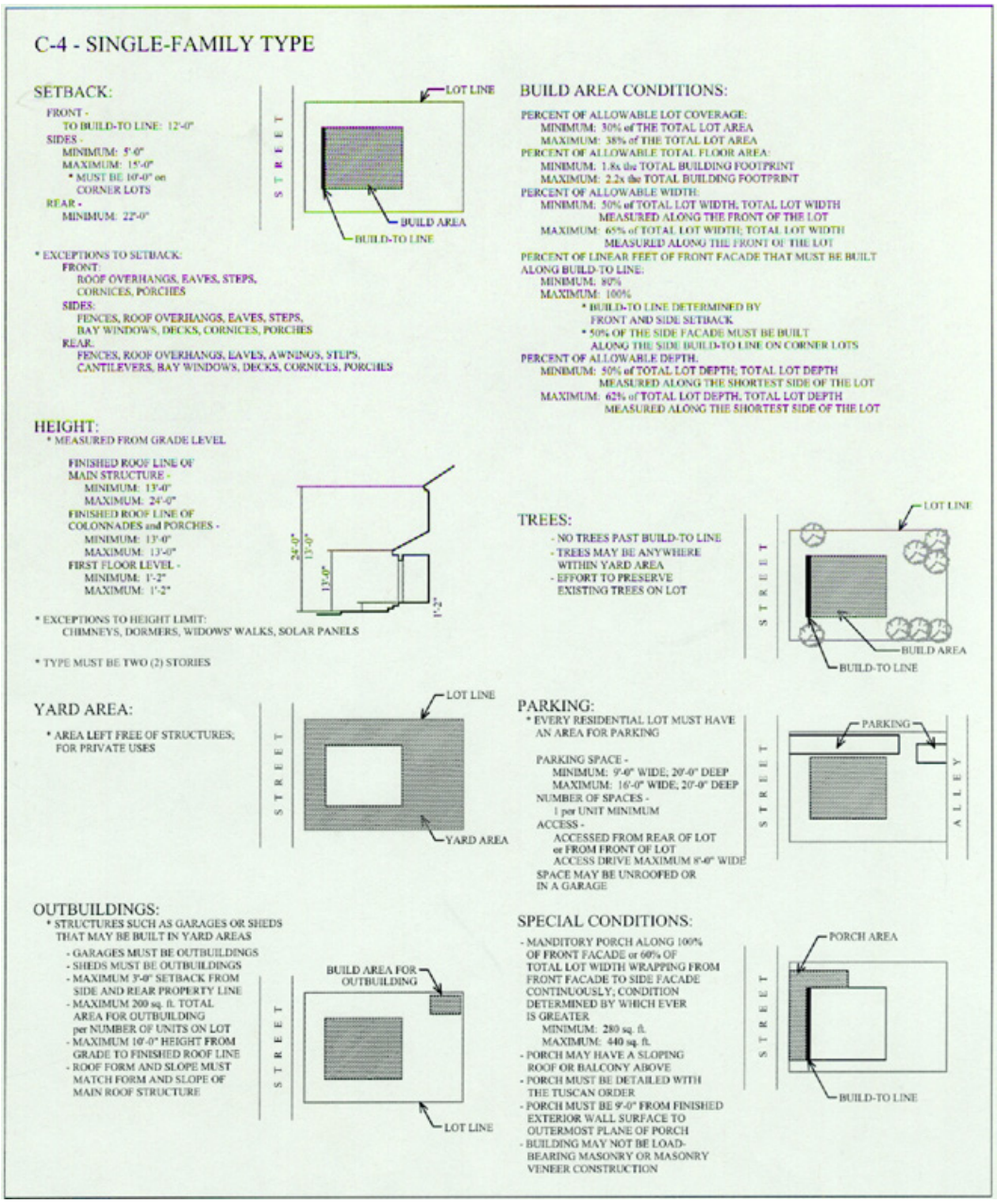
11.1.5
Single-family Type C-1.



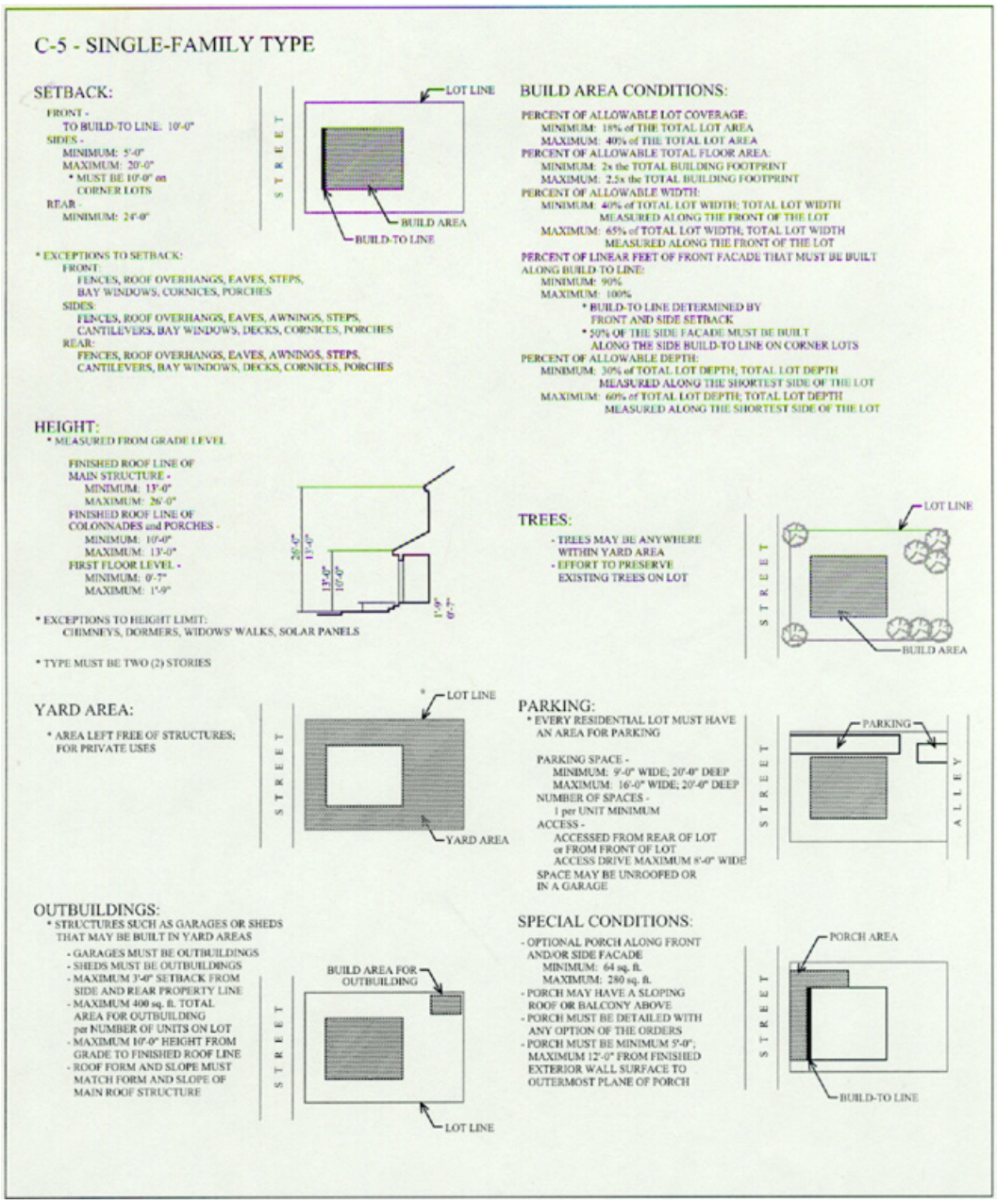
11.1.6
Single-family Type C-2.



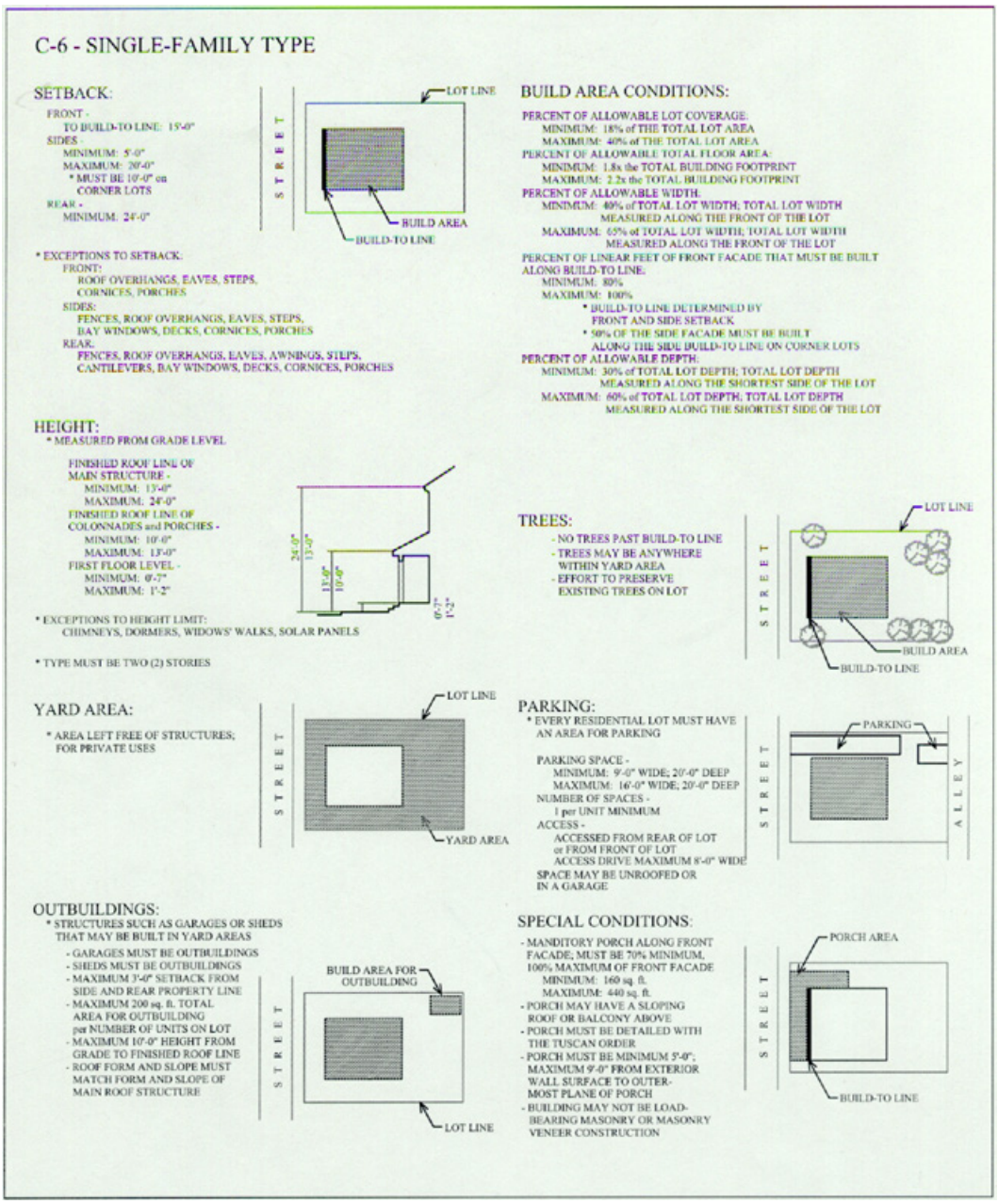
11.1.7
Single-family Type C-3



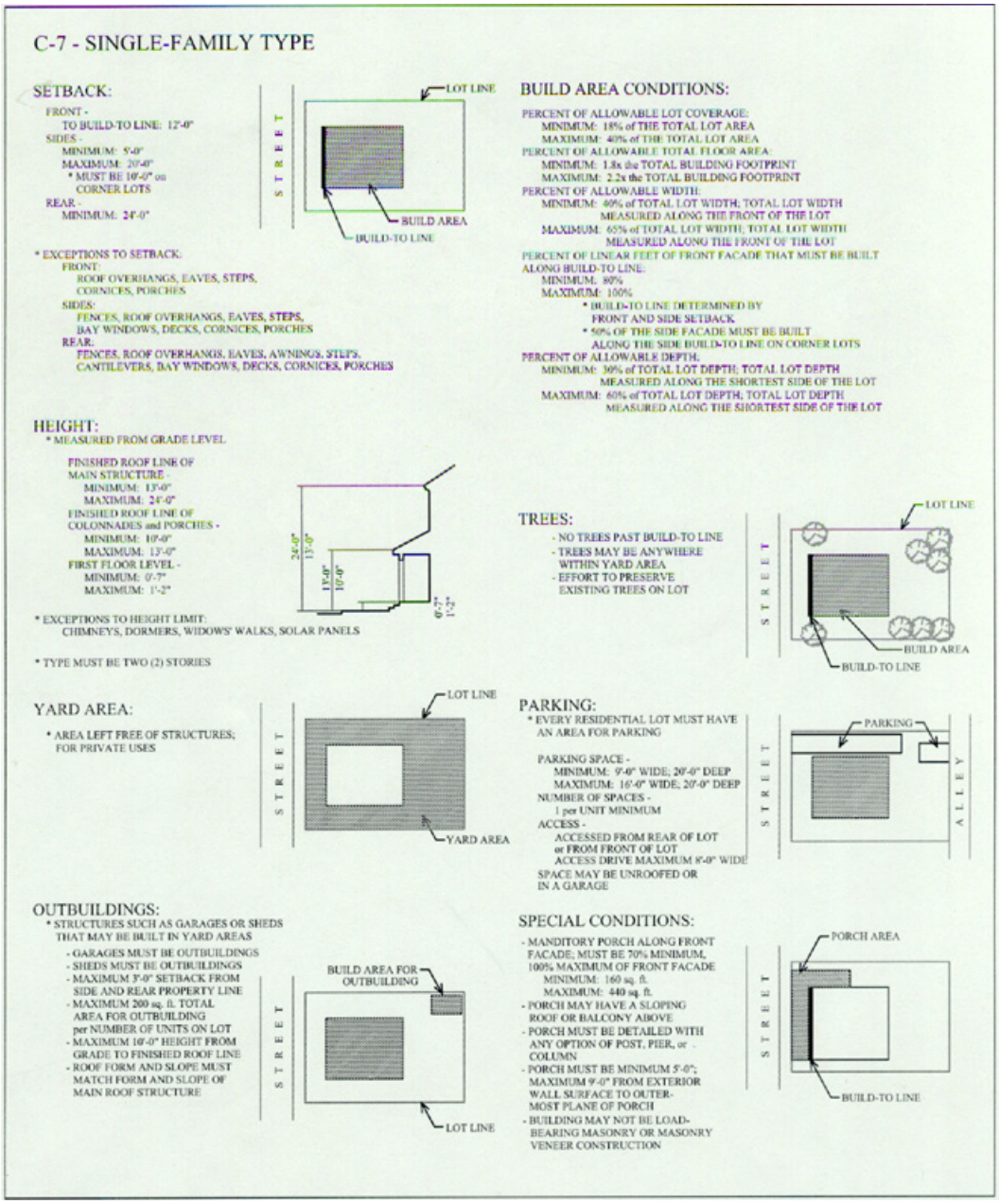
11.1.8
Single-family Type C-4.



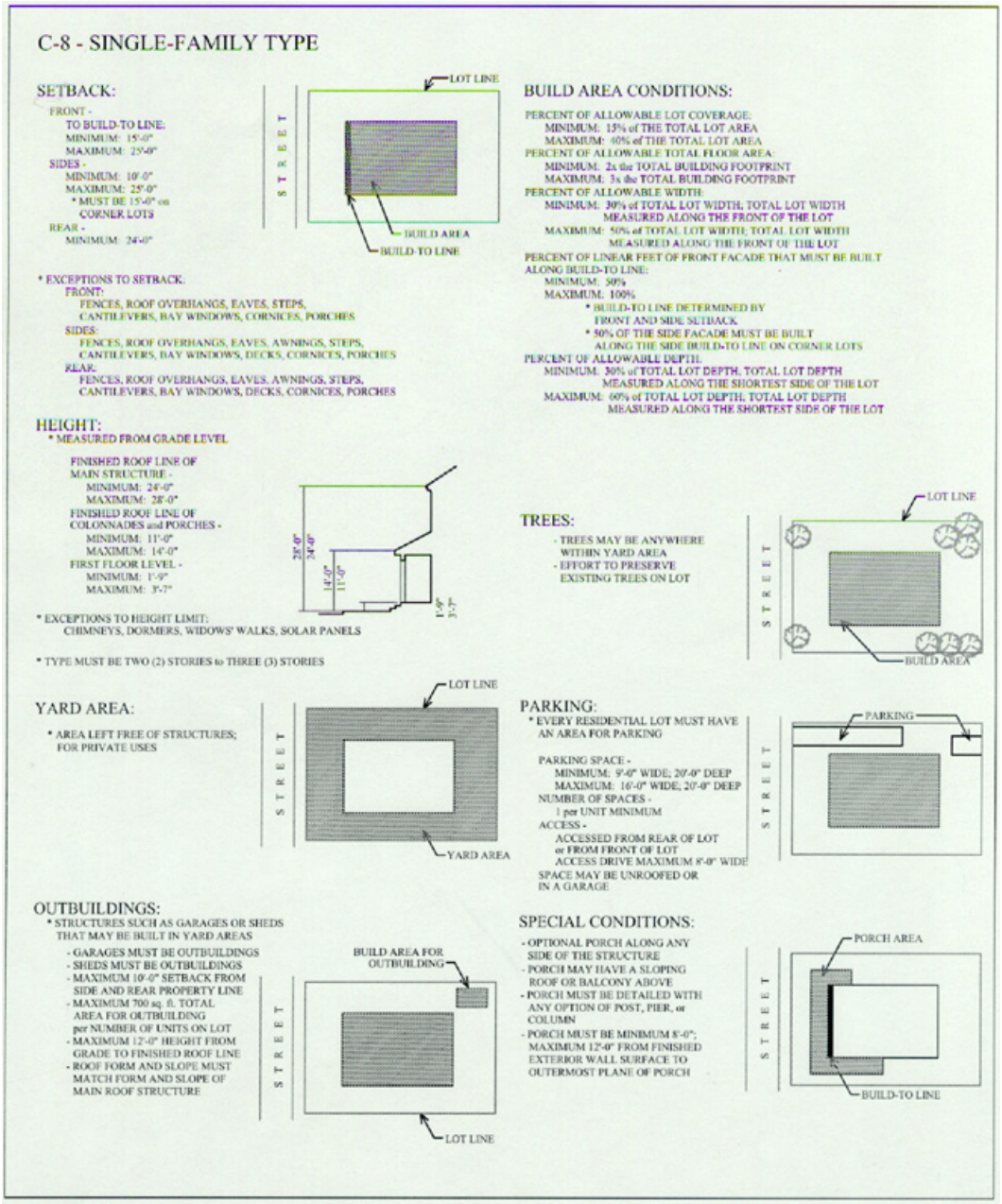
11.1.9
Single-family Type C-5



11.1.10
Single-family Type C-6.



11.1.11
Single-family Type C-7.

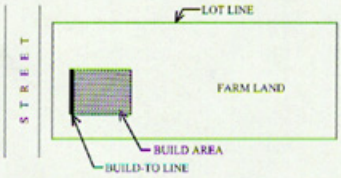


11.1.12
Single-family Type C-8.

D - FARMS

SETBACK:

FRONT -
TO BUILD-TO LINE: 20'-0"
SIDES -
MINIMUM: 10'-0"
MAXIMUM: 30'-0"



* EXCEPTIONS TO SETBACK:
FRONT:
FENCES, ROOF OVERHANGS, EAVES, STEPS, BAY WINDOWS, CORNICES, PORCHES
SIDES:
FENCES, ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, BAY WINDOWS, DECKS, CORNICES, PORCHES
REAR:
FENCES, ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, BAY WINDOWS, DECKS, CORNICES, PORCHES

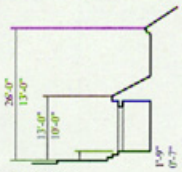
BUILD AREA CONDITIONS:

PERCENT OF ALLOWABLE LOT COVERAGE:
MINIMUM: 0.5% of THE TOTAL LOT AREA
MAXIMUM: 5% of THE TOTAL LOT AREA
PERCENT OF ALLOWABLE TOTAL FLOOR AREA:
MINIMUM: 1.5x the TOTAL BUILDING FOOTPRINT
MAXIMUM: 2.5x the TOTAL BUILDING FOOTPRINT
PERCENT OF ALLOWABLE WIDTH:
MINIMUM: 20% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
MAXIMUM: 30% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
PERCENT OF LINEAR FEET OF FRONT FACADE THAT MUST BE BUILT ALONG BUILD-TO LINE:
MINIMUM: 70%
MAXIMUM: 100%
* BUILD-TO LINE DETERMINED BY FRONT AND SIDE SETBACK
* 50% OF THE SIDE FACADE MUST BE BUILT ALONG THE SIDE BUILD-TO LINE ON CORNER LOTS

HEIGHT:

* MEASURED FROM GRADE LEVEL

FINISHED ROOF LINE OF MAIN STRUCTURE -
MINIMUM: 13'-0"
MAXIMUM: 26'-0"
FINISHED ROOF LINE OF COLONNADES and PORCHES -
MINIMUM: 10'-0"
MAXIMUM: 13'-0"
FIRST FLOOR LEVEL -
MINIMUM: 0'-7"
MAXIMUM: 1'-9"

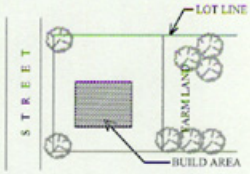


* EXCEPTIONS TO HEIGHT LIMIT:
CHIMNEYS, DORMERS, WIDOWS' WALKS, SOLAR PANELS

* TYPE MUST BE ONE (1) to TWO (2) STORIES

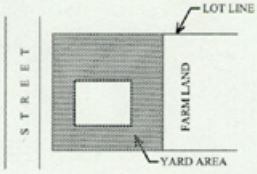
TREES:

- TREES MAY BE ANYWHERE ON LOT
- EFFORT TO PRESERVE EXISTING TREES ON LOT



YARD AREA:

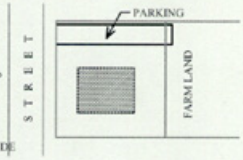
* AREA LEFT FREE OF STRUCTURES; FOR PRIVATE USES



PARKING:

* EVERY RESIDENTIAL LOT MUST HAVE AN AREA FOR PARKING

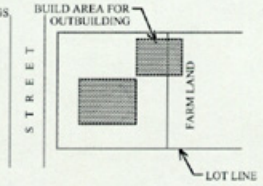
PARKING SPACE -
MINIMUM: 9'-0" WIDE; 20'-0" DEEP
MAXIMUM: 16'-0" WIDE; 20'-0" DEEP
NUMBER OF SPACES -
1 per UNIT MINIMUM
ACCESS -
ACCESSED FROM FRONT OF LOT
ACCESS DRIVE MAXIMUM 12'-0" WIDE
SPACE MAY BE UNROOFED OR IN A GARAGE



OUTBUILDINGS:

* STRUCTURES SUCH AS GARAGES, SHEDS, OR BARNS THAT MAY BE BUILT IN YARD OR FARM LAND AREAS

- GARAGES MUST BE OUTBUILDINGS
- SHEDS MUST BE OUTBUILDINGS
- BARNS MUST BE OUTBUILDINGS
- REQUIRED 15'-0" SETBACK FROM SIDE AND REAR PROPERTY LINE
- MAXIMUM 3000 sq. ft. TOTAL AREA FOR OUTBUILDING per NUMBER OF UNITS ON LOT
- MAXIMUM 20'-0" HEIGHT FROM GRADE TO FINISHED ROOF LINE

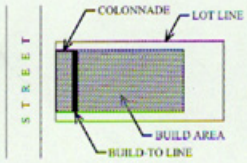


11.1.13
Farm Type D.

E - GENERAL COMMERCIAL

SETBACK:

FRONT -
TO COLONNADE: 0'-0"
TO BUILD-TO LINE: 8'-0"
SIDES -
MINIMUM: 0'-0"
MAXIMUM: 5'-0"
* MUST BE 0'-0" on CORNER LOTS
REAR -
MINIMUM: 10'-0"
MAXIMUM: 40'-0"



* EXCEPTIONS TO SETBACK:
FRONT:
CORNICES, COLONNADES
SIDES:
ROOF OVERHANGS, EAVES, CORNICES
REAR:
FENCES, ROOF OVERHANGS, EAVES, STEPS, CANTILEVERS, DECKS, CORNICES, PORCHES

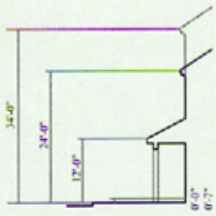
BUILD AREA CONDITIONS:

PERCENT OF ALLOWABLE LOT COVERAGE:
MINIMUM: 50% of THE TOTAL LOT AREA
MAXIMUM: 85% of THE TOTAL LOT AREA
PERCENT OF ALLOWABLE TOTAL FLOOR AREA:
MINIMUM: 1.5x the TOTAL BUILDING FOOTPRINT (including COLONNADE)
MAXIMUM: 2x the TOTAL BUILDING FOOTPRINT (including COLONNADE)
PERCENT OF ALLOWABLE WIDTH:
MINIMUM: 70% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
MAXIMUM: 100% of TOTAL LOT WIDTH; TOTAL LOT WIDTH MEASURED ALONG THE FRONT OF THE LOT
PERCENT OF LINEAR FEET OF FRONT FACADE THAT MUST BE BUILT ALONG BUILD-TO LINE:
MINIMUM: 100%
MAXIMUM: 100%
* BUILD-TO LINE DETERMINED BY FRONT AND SIDE SETBACK
* 50% OF THE SIDE FACADE MUST BE BUILT ALONG THE SIDE BUILD-TO LINE ON CORNER LOTS
PERCENT OF ALLOWABLE DEPTH:
MINIMUM: 50% of TOTAL LOT DEPTH; TOTAL LOT DEPTH MEASURED ALONG THE SHORTEST SIDE OF THE LOT
MAXIMUM: 80% of TOTAL LOT DEPTH; TOTAL LOT DEPTH MEASURED ALONG THE SHORTEST SIDE OF THE LOT

HEIGHT:

* MEASURED FROM GRADE LEVEL

FINISHED ROOF LINE OF MAIN STRUCTURE -
MINIMUM: 24'-0"
MAXIMUM: 30'-0"
FINISHED ROOF LINE OF COLONNADES and PORCHES -
MINIMUM: 12'-0"
MAXIMUM: 12'-0"
FIRST FLOOR LEVEL -
MINIMUM: 0'-0"
MAXIMUM: 0'-7"

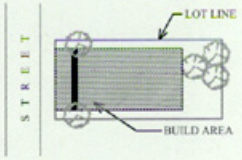


* EXCEPTIONS TO HEIGHT LIMIT:
CHIMNEYS, DORMERS, WIDOWS' WALKS, SOLAR PANELS

* TYPE MAY BE TWO (2) to THREE (3) STORIES

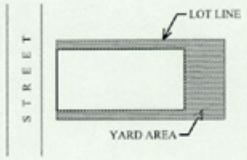
TREES:

- NO TREES PAST BUILD-TO LINE
- TREES MAY BE ANYWHERE WITHIN YARD AREA
- EFFORT TO PRESERVE EXISTING TREES ON LOT



YARD AREA:

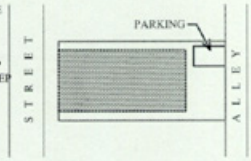
* AREA LEFT FREE OF STRUCTURES; FOR PRIVATE USES



PARKING:

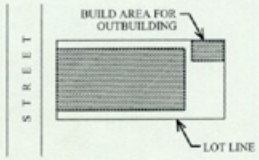
* EVERY COMMERCIAL LOT MUST HAVE AN AREA FOR PARKING

PARKING SPACE -
MINIMUM: 9'-0" WIDE; 20'-0" DEEP
MAXIMUM: 16'-0" WIDE; 20'-0" DEEP
NUMBER OF SPACES -
1 per UNIT MINIMUM
ACCESS -
ACCESSED FROM REAR OF LOT
SPACE MAY BE UNROOFED OR IN A GARAGE



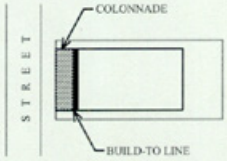
OUTBUILDINGS:

* STRUCTURES SUCH AS GARAGES, SHEDS, OR STORAGE THAT MAY BE BUILT IN YARD AREAS
- GARAGES MUST BE OUTBUILDINGS
- SHEDS MUST BE OUTBUILDINGS
- STORAGE MUST BE OUTBUILDING
- MAXIMUM 2'-0" SETBACK FROM SIDE AND REAR PROPERTY LINE
- MAXIMUM 200 sq. ft. TOTAL AREA FOR OUTBUILDING per LOT
- MAXIMUM 10'-0" HEIGHT FROM GRADE TO FINISHED ROOF LINE
- ROOF FORM AND SLOPE MUST MATCH FORM AND SLOPE OF MAIN ROOF STRUCTURE



SPECIAL CONDITIONS:

- MANDITORY COLONNADE ALONG 100% OF FRONT FACADE
- COLONNADE MAY HAVE A SLOPING ROOF OR BALCONY ABOVE
- COLONNADE MUST BE DETAILED WITH EITHER THE "POLE and SIMPLE POST with OPTIONAL BRACING;" or THE "DETAILED POLE or POST"
- COLONNADE MUST BE 8'-0" FROM FINISHED EXTERIOR WALL SURFACE TO OUTERMOST PLANE OF COLONNADE



11.1.14
General Commercial Type E.

F - WORKSHOPS
* REFER TO MASTER PLAN FOR SPECIFICATIONS

SETBACK:

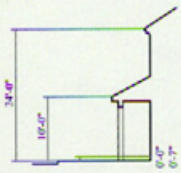
FRONT: 0'-0"
BUILD-TO LINE: REFER TO MASTER PLAN
SIDES -
MINIMUM: 0'-0"
MAXIMUM: 5'-0"
* MUST BE 0'-0" on CORNER LOTS

* EXCEPTIONS TO SETBACK:
FRONT:
ROOF OVERHANGS, EAVES, STEPS, CORNICES, COLONNADES
SIDES:
ROOF OVERHANGS, EAVES, CORNICES, STEPS, DECKS, COLONNADES, PORCHES
REAR:
FENCES, ROOF OVERHANGS, EAVES, STEPS, CANTILEVERS, DECKS, CORNICES, PORCHES

HEIGHT:

* MEASURED FROM GRADE LEVEL

FINISHED ROOF LINE OF MAIN STRUCTURE -
MINIMUM: 12'-0"
MAXIMUM: 24'-0"
FINISHED ROOF LINE OF COLONNADES and PORCHES -
MINIMUM: 10'-0"
MAXIMUM: 10'-0"
FIRST FLOOR LEVEL -
MINIMUM: 0'-0"
MAXIMUM: 0'-7"



* EXCEPTIONS TO HEIGHT LIMIT:
CHIMNEYS, DORMERS, WIDOWS' WALKS, SOLAR PANELS

PARKING:

PARKING SPACE -
MINIMUM: 9'-0" WIDE; 20'-0" DEEP
MAXIMUM: 9'-0" WIDE; 20'-0" DEEP
NUMBER OF SPACES -
1 per UNIT MINIMUM
ACCESS -
ACCESSED FROM REAR OF LOT

YARD AREA:

* AREA LEFT FREE OF STRUCTURES, FOR PRIVATE USES

TREES:

- NO TREES PAST BUILD-TO LINE
- TREES MAY BE ANYWHERE WITHIN YARD AREA
- EFFORT TO PRESERVE EXISTING TREES ON LOT

OUTBUILDINGS:

* STRUCTURES SUCH AS GARAGES, SHEDS, OR STORAGE THAT MAY BE BUILT IN YARD AREAS
- GARAGES MUST BE OUTBUILDINGS
- SHEDS MUST BE OUTBUILDINGS
- STORAGE MUST BE OUTBUILDING
- MAXIMUM 2'-0" SETBACK FROM SIDE AND REAR PROPERTY LINE
- MAXIMUM 200 sq. ft. TOTAL AREA FOR OUTBUILDING per WORKSHOP UNIT
- MAXIMUM 10'-0" HEIGHT FROM GRADE TO FINISHED ROOF LINE
- ROOF FORM AND SLOPE MUST MATCH FORM AND SLOPE OF MAIN ROOF STRUCTURE

G - SPECIALTY COMMERCIAL
* REFER TO MASTER PLAN FOR SPECIFICATIONS

SETBACK:

BUILD-TO LINE: REFER TO MASTER PLAN
* EXCEPTIONS TO SETBACK:
FRONT:
ROOF OVERHANGS, EAVES, STEPS, COLONNADES, BAY WINDOWS, CORNICES, PORCHES
SIDES:
ROOF OVERHANGS, EAVES, STEPS, CANTILEVERS, COLONNADES, BAY WINDOWS, DECKS, CORNICES, PORCHES
REAR:
ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, COLONNADES, BAY WINDOWS, DECKS, CORNICES, PORCHES

PARKING:

* REFER TO MASTER PLAN

H - SPECIALTY CIVIC, INSTITUTIONAL, and RECREATIONAL
* REFER TO MASTER PLAN FOR SPECIFICATIONS

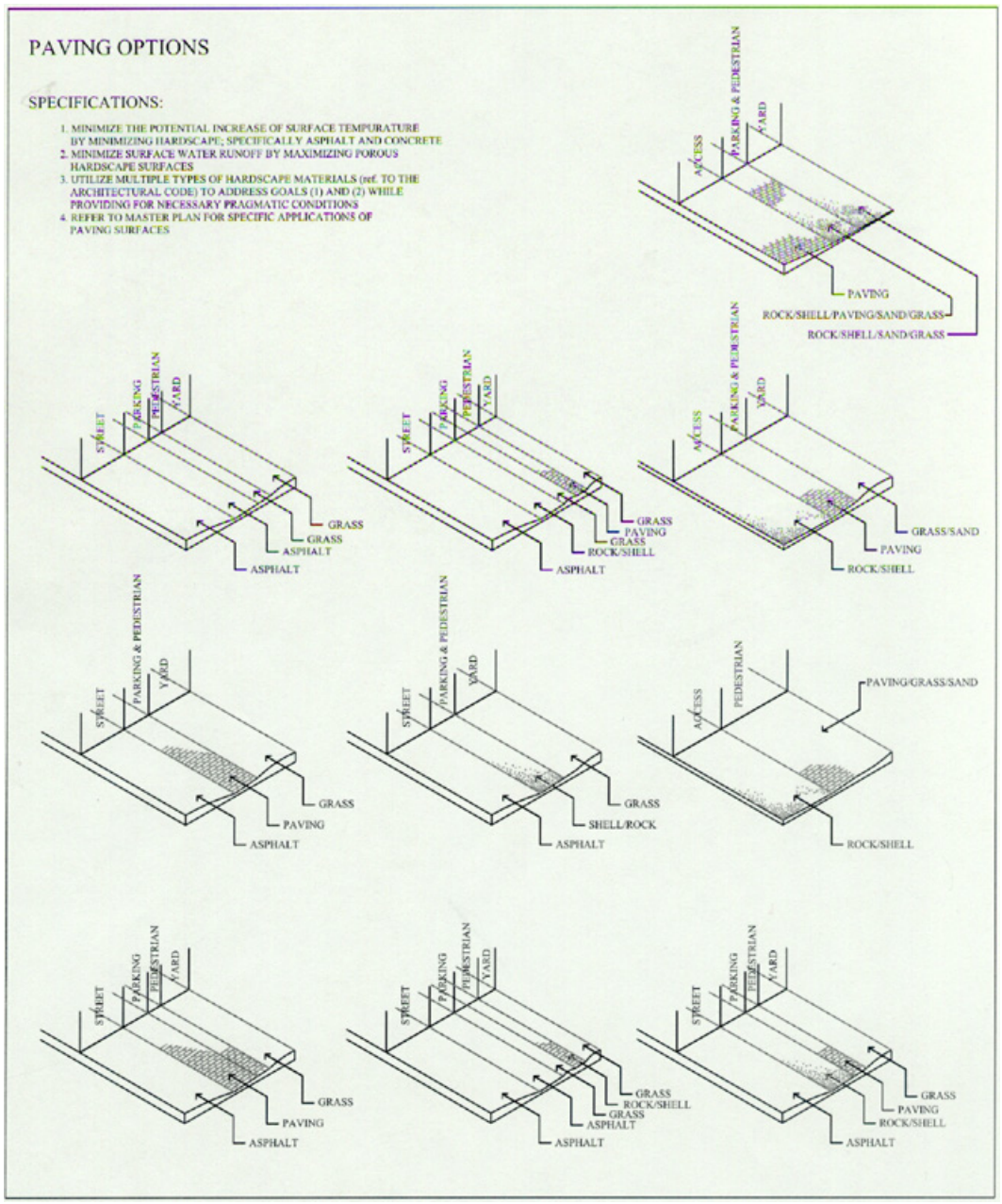
SETBACK:

BUILD-TO LINE: REFER TO MASTER PLAN
* EXCEPTIONS TO SETBACK:
FRONT:
ROOF OVERHANGS, EAVES, STEPS, COLONNADES, BAY WINDOWS, CORNICES, PORCHES
SIDES:
ROOF OVERHANGS, EAVES, STEPS, CANTILEVERS, COLONNADES, BAY WINDOWS, DECKS, CORNICES, PORCHES
REAR:
ROOF OVERHANGS, EAVES, AWNINGS, STEPS, CANTILEVERS, COLONNADES BAY WINDOWS, DECKS, CORNICES, PORCHES

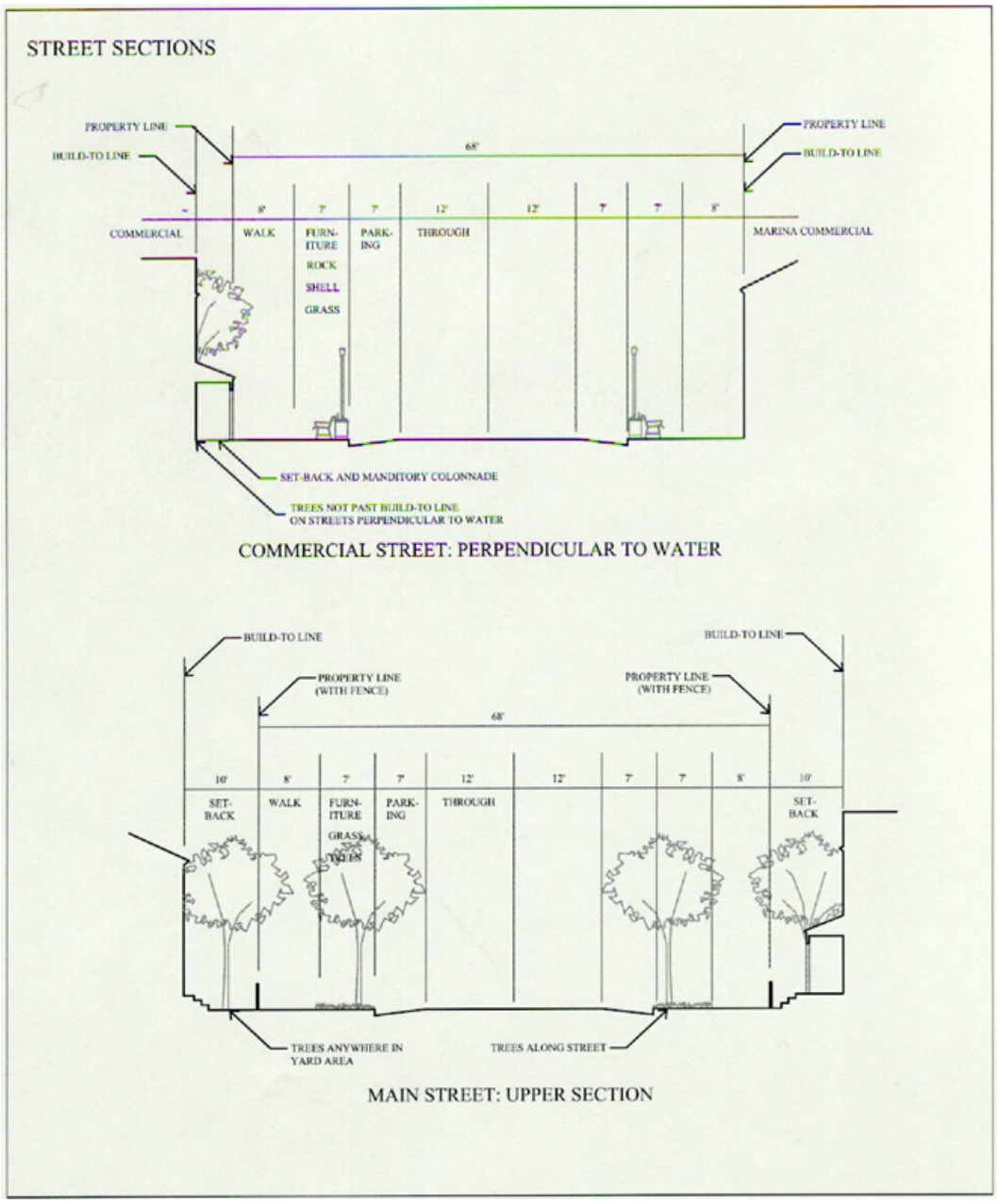
PARKING:

* REFER TO MASTER PLAN

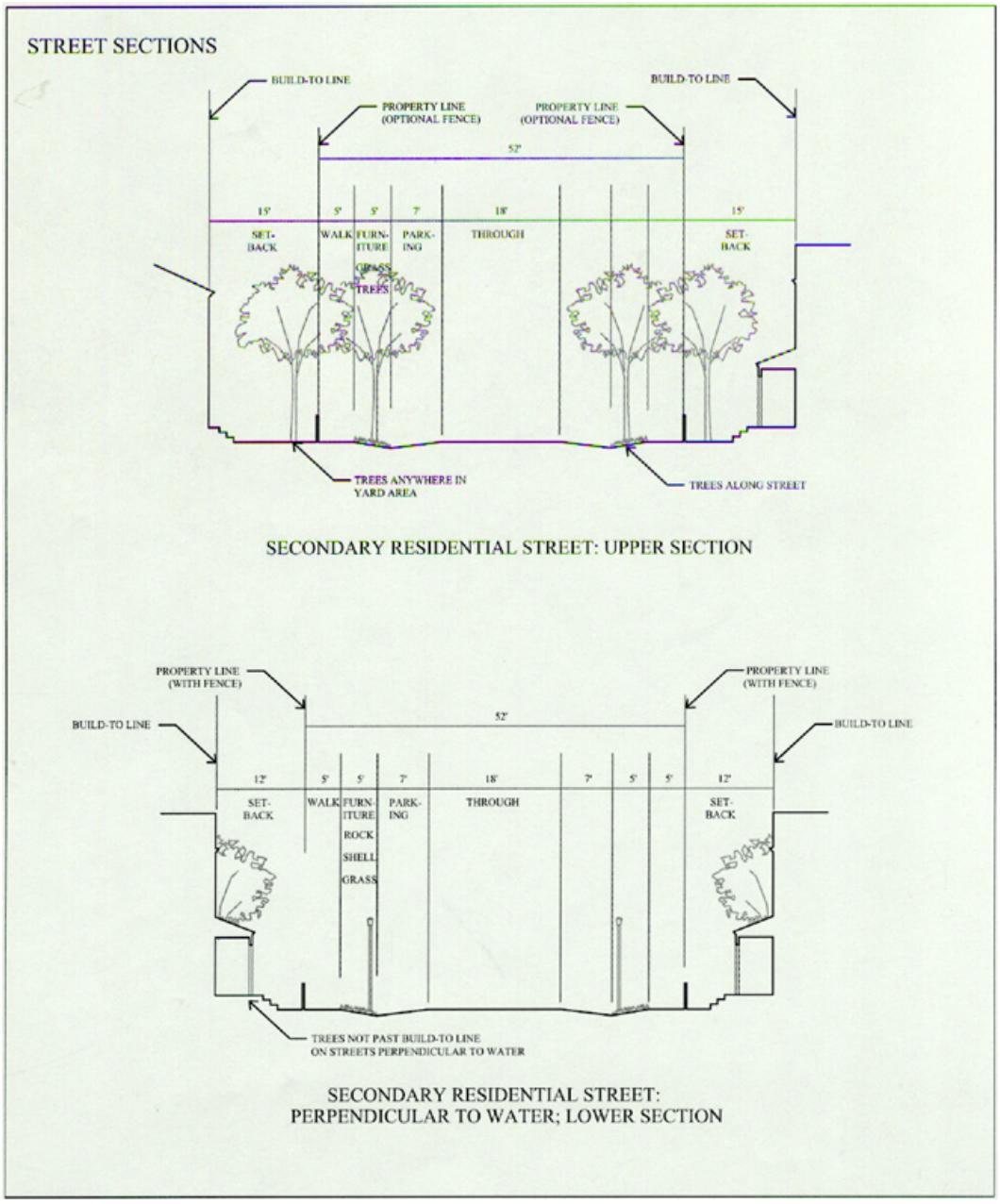
11.1.15
Workshops Type F, Specialty Commercial Type G, Civic Type H.



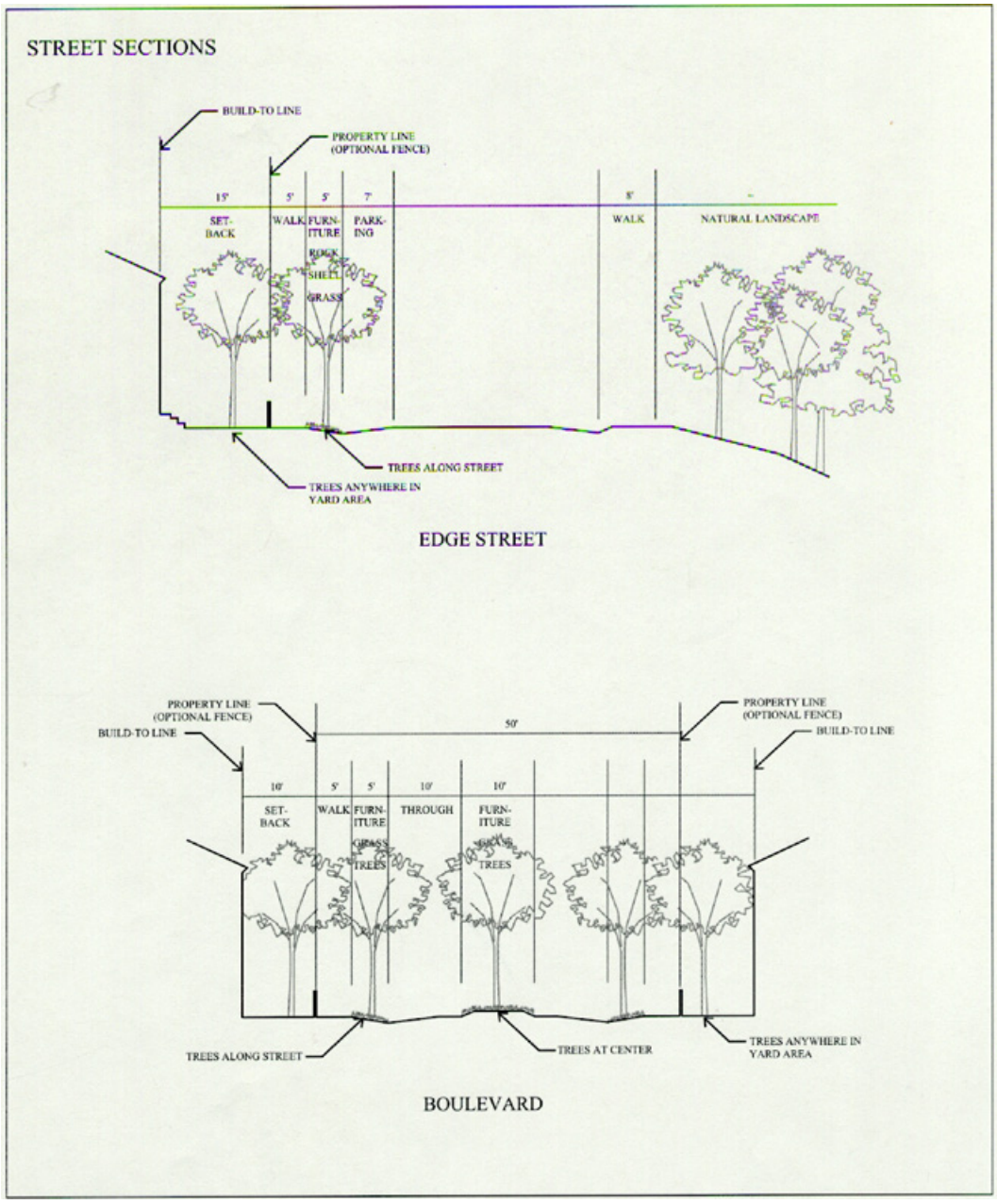
11.1.16
Paving Options.



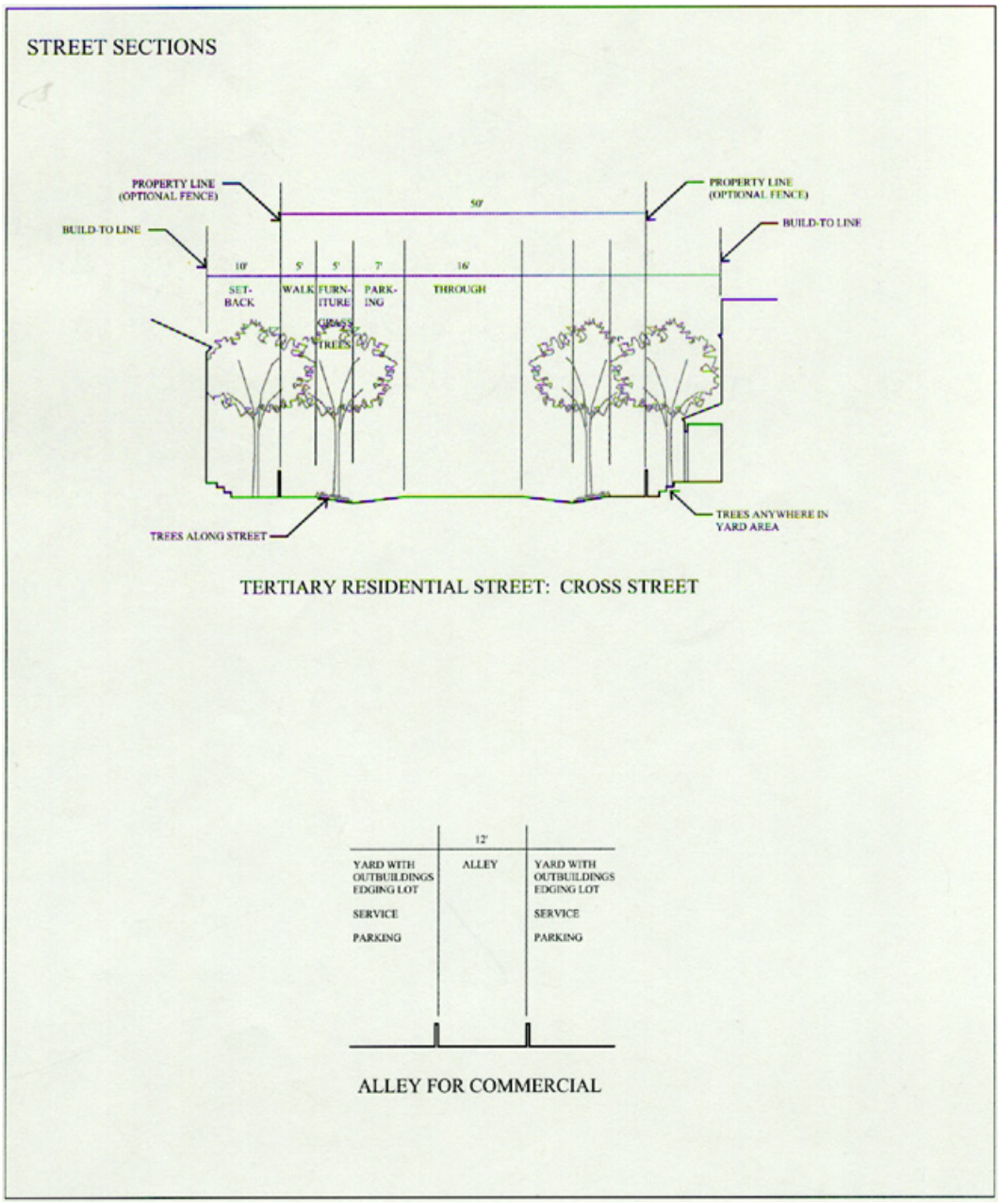
11.1.17
Street Sections A.



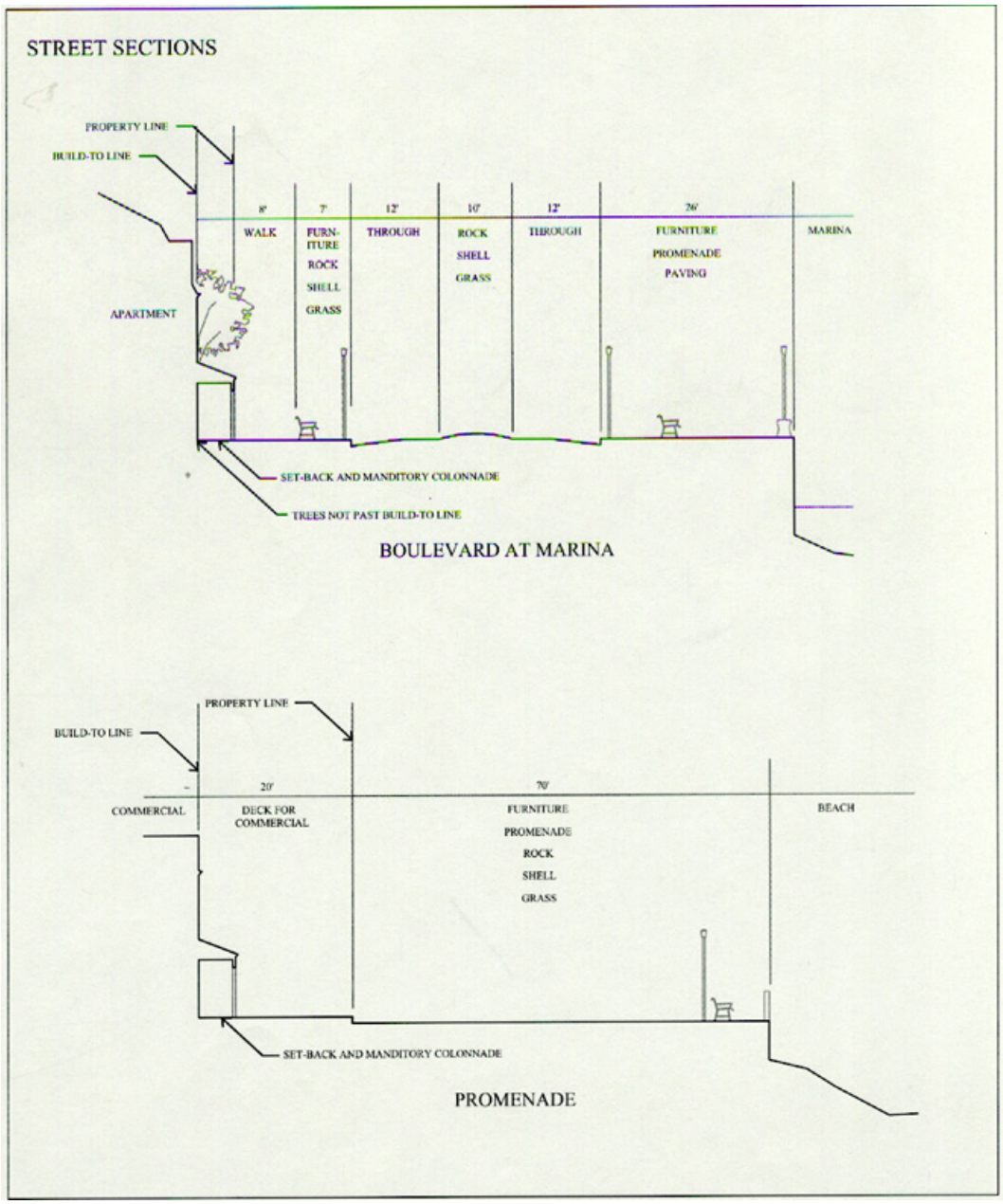
11.1.18
Street Sections B.



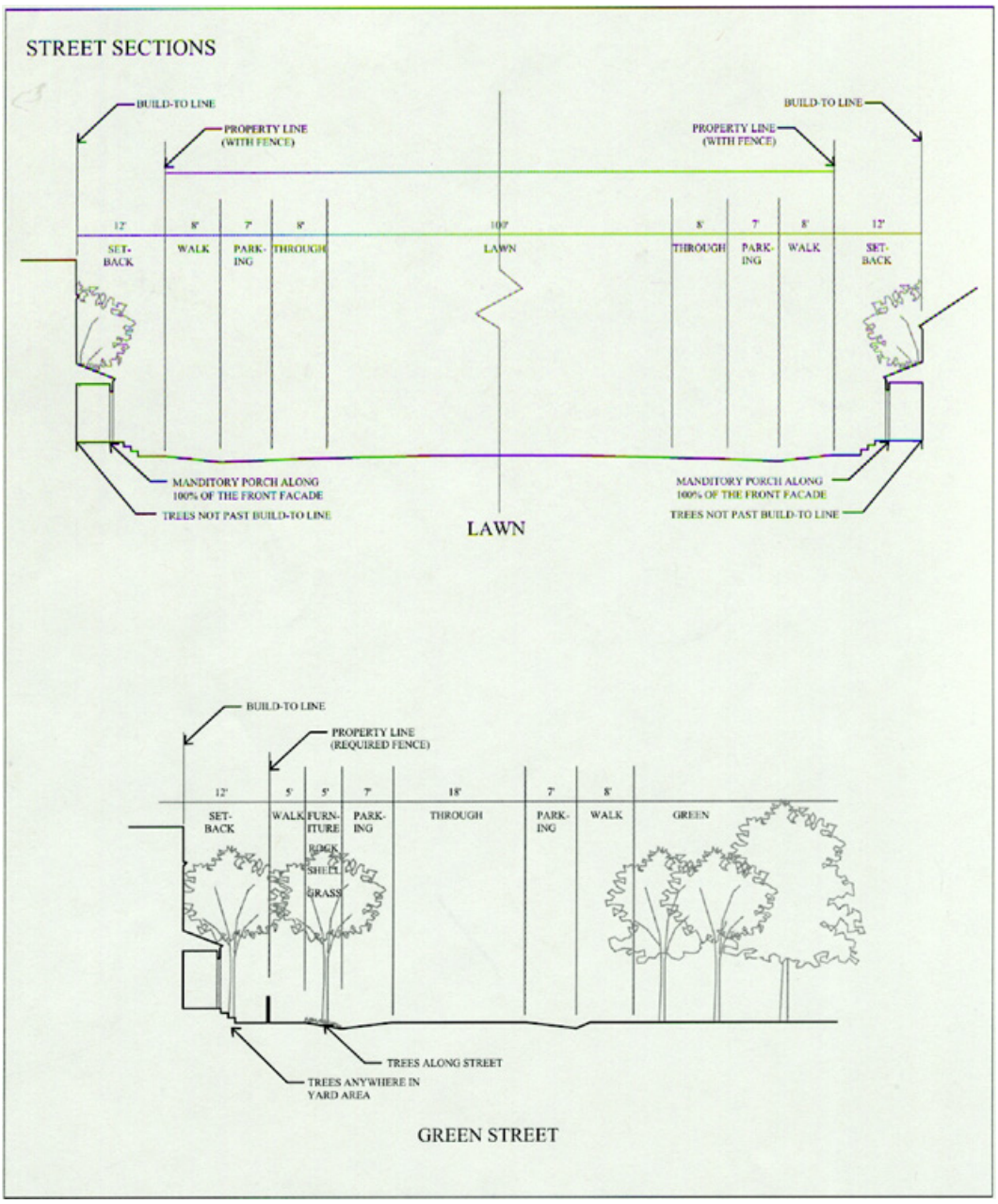
11.1.19
Street Sections C.



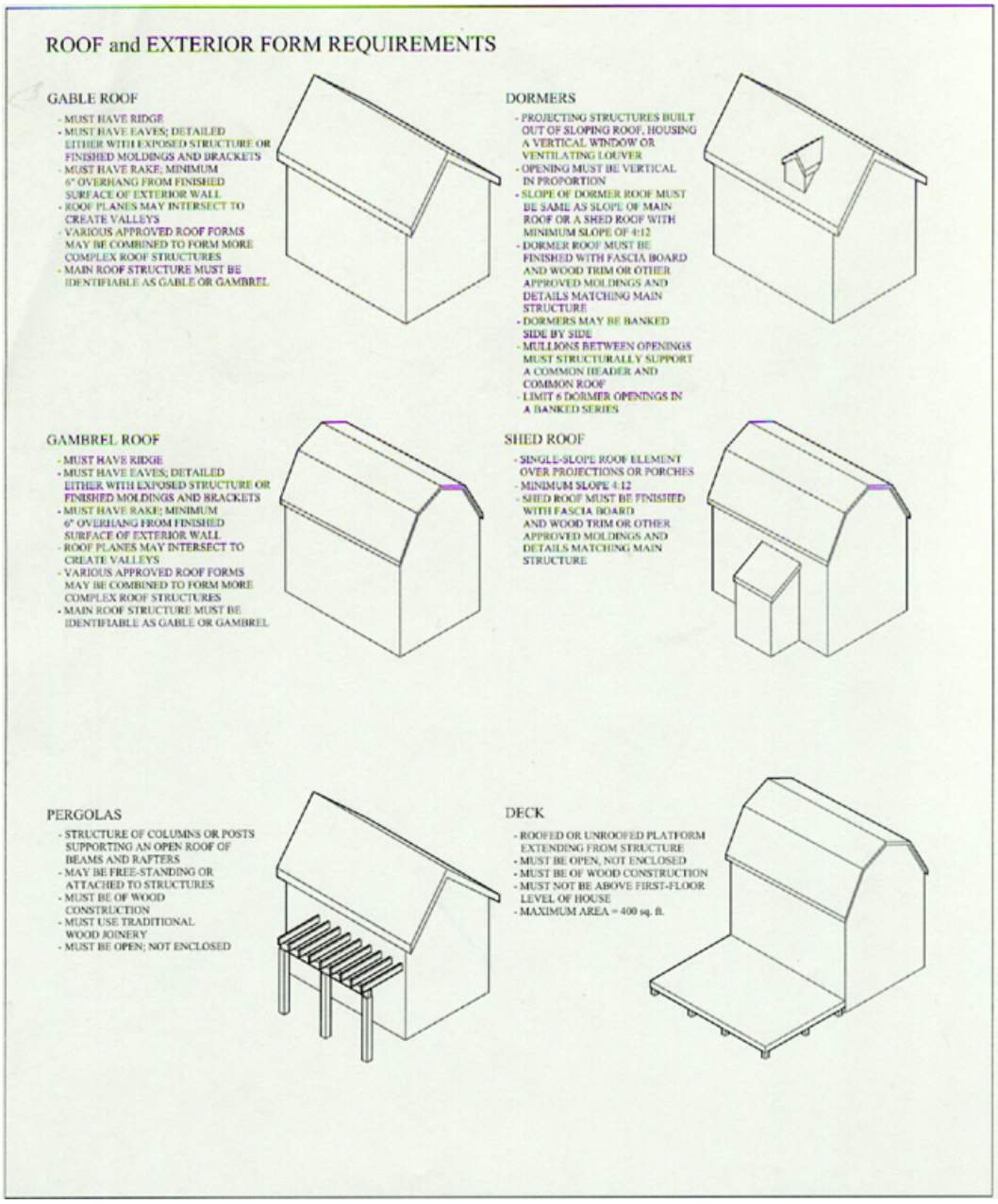
11.1.20
Street Sections D.



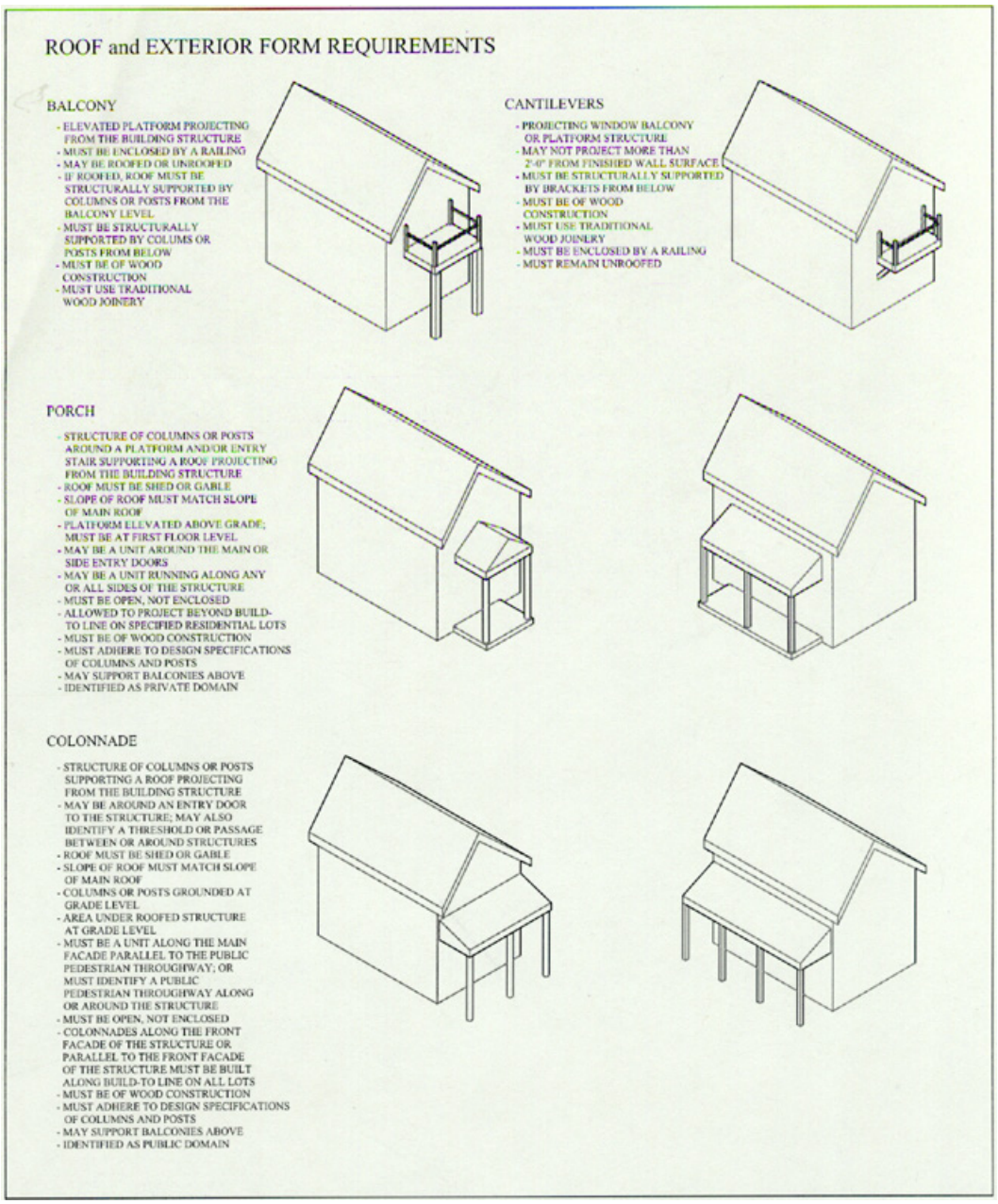
11.1.21
Street Sections E.



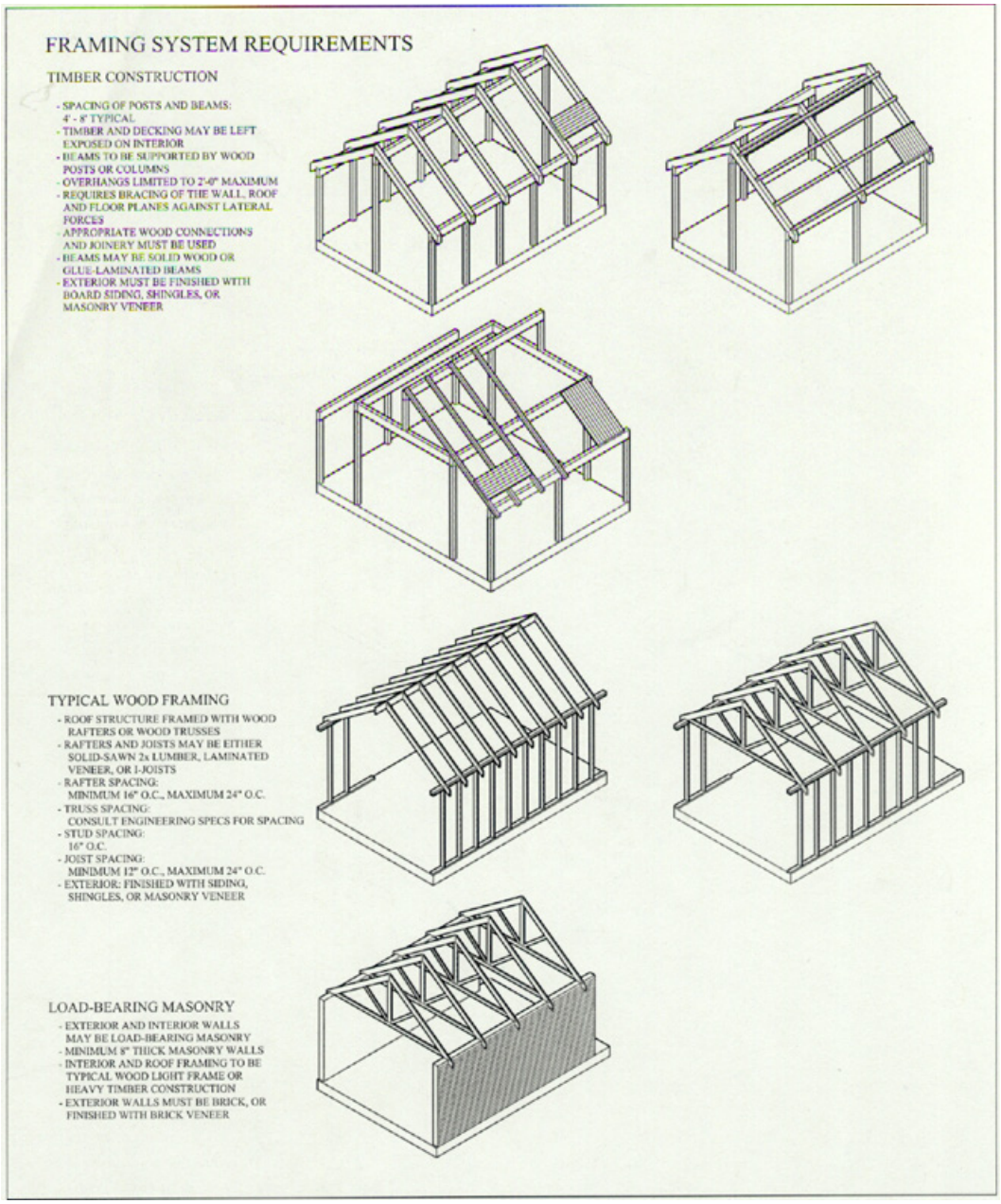
11.1.22
Street Sections F.



11.1.23
Roof and Exterior Form Requirements.



11.1.24
Roof and Exterior Form Requirements



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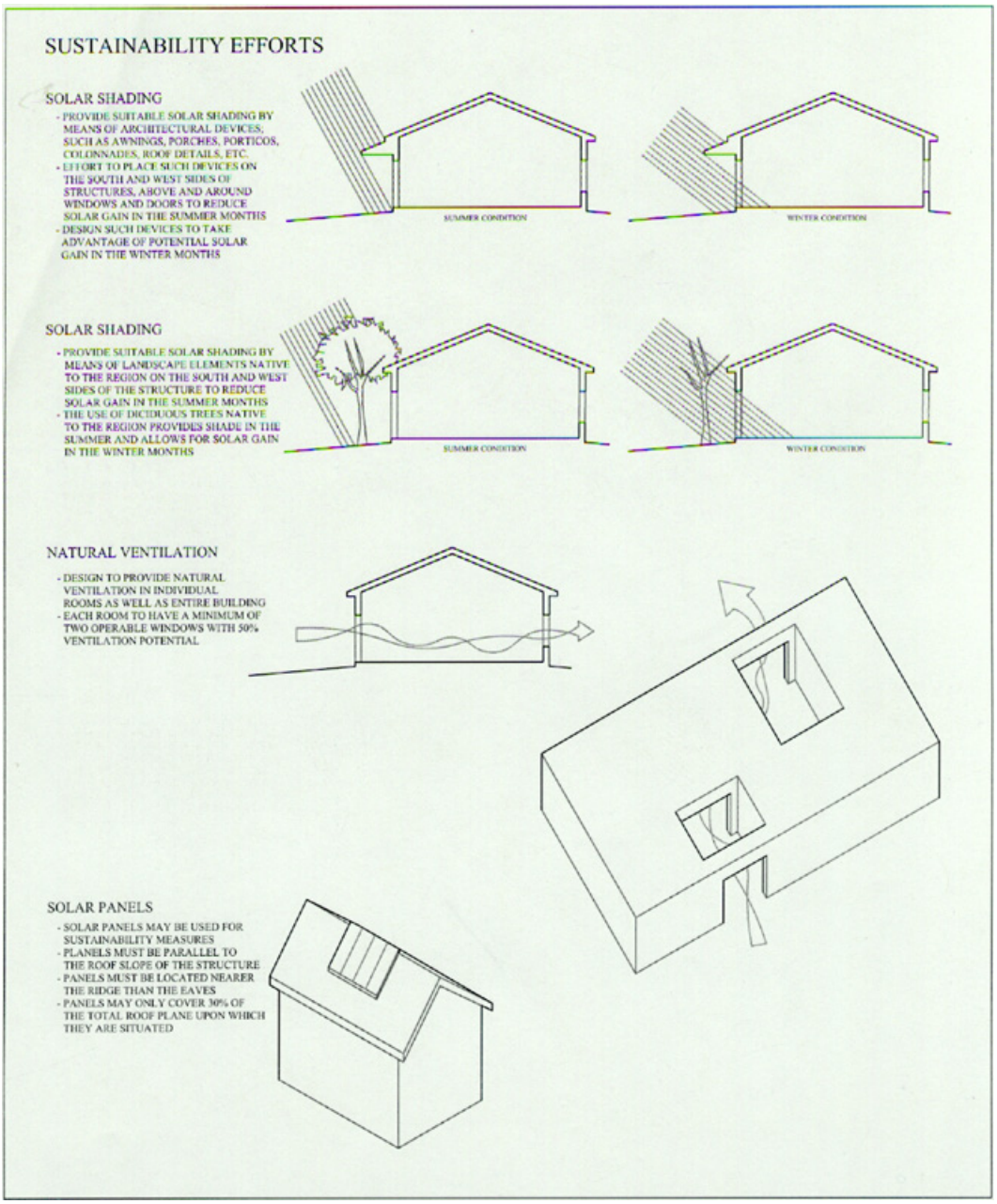
Framing System Requirements.



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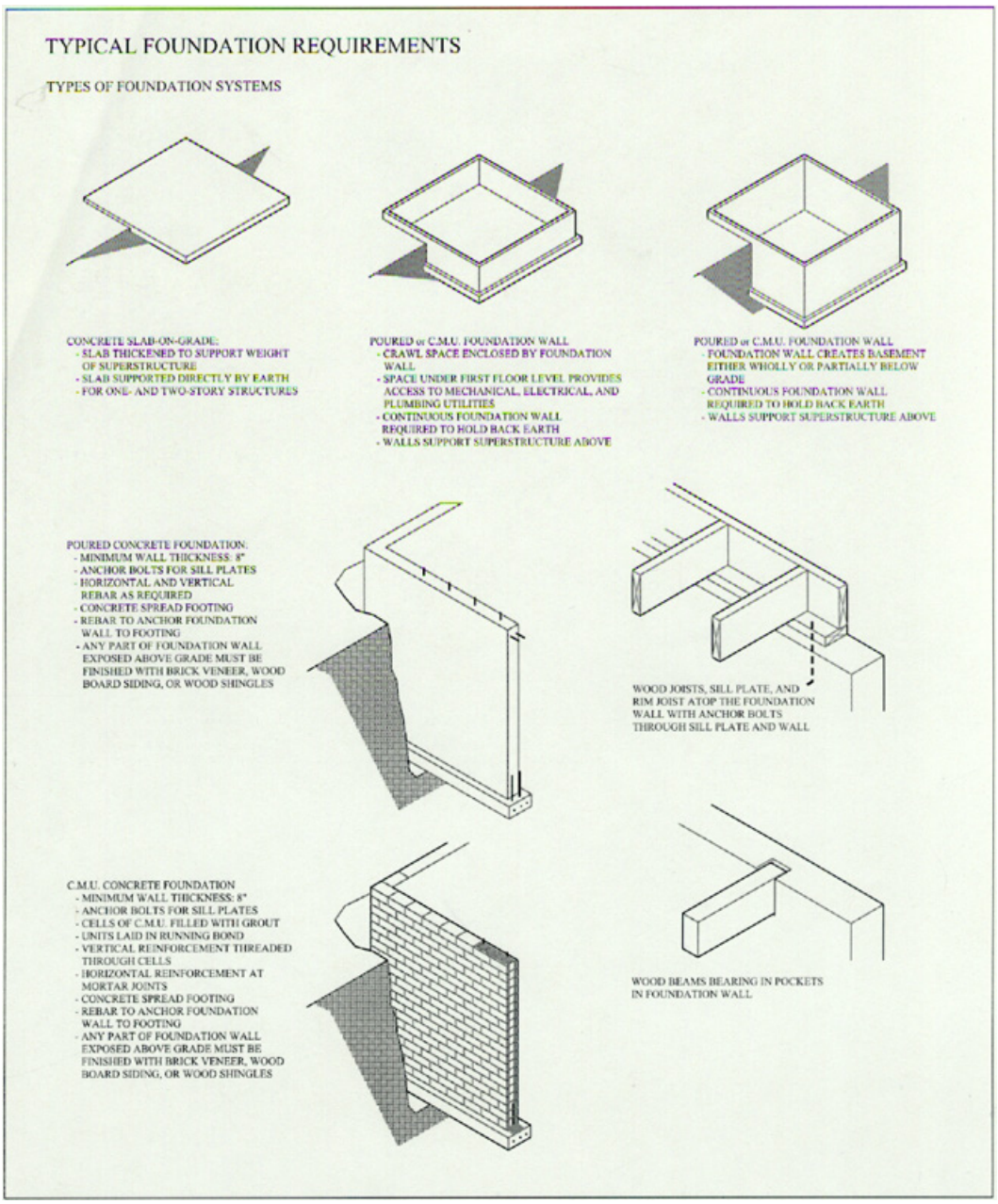
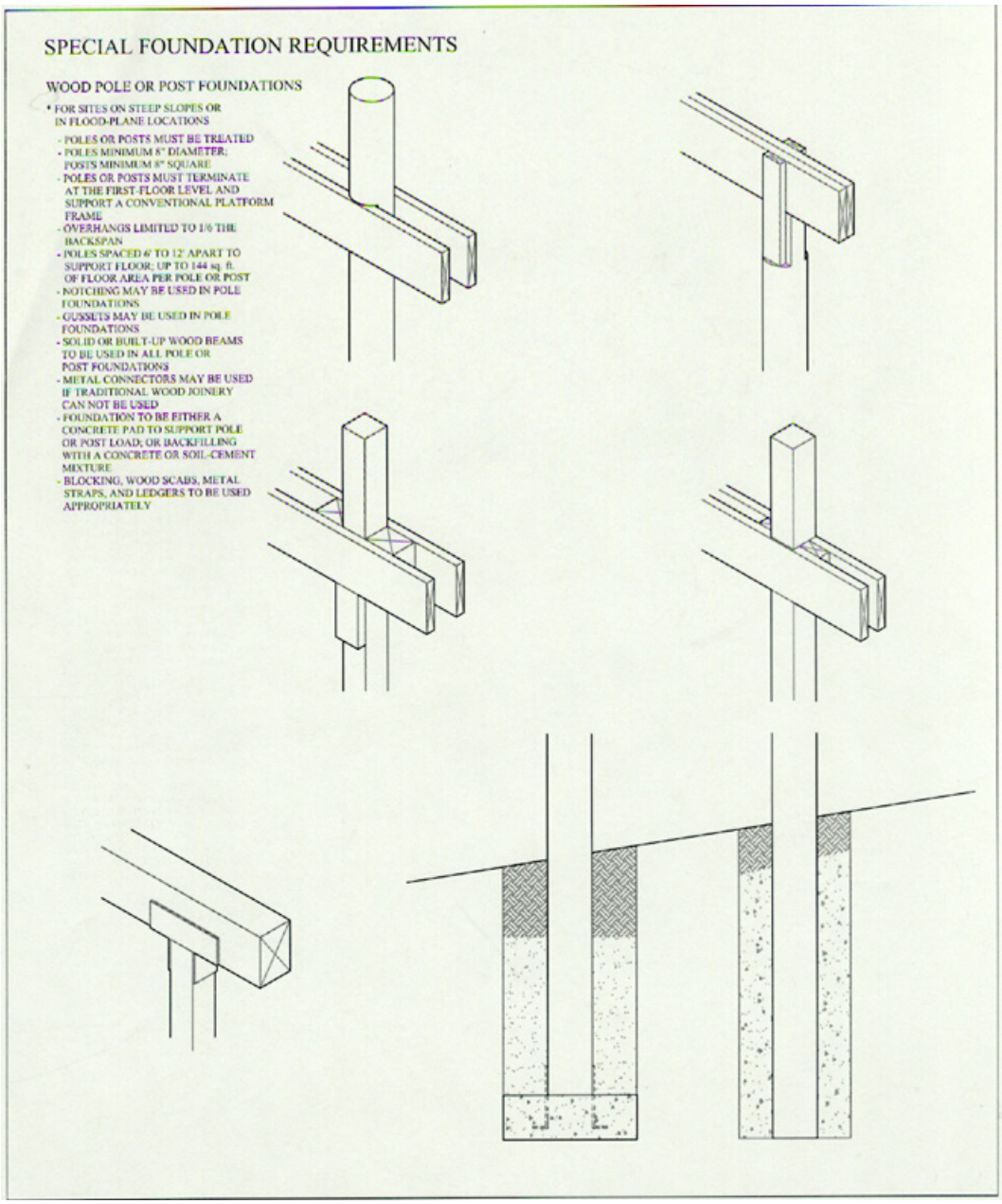
Sustainability Efforts.



11.1.27
Foundation Requirements.



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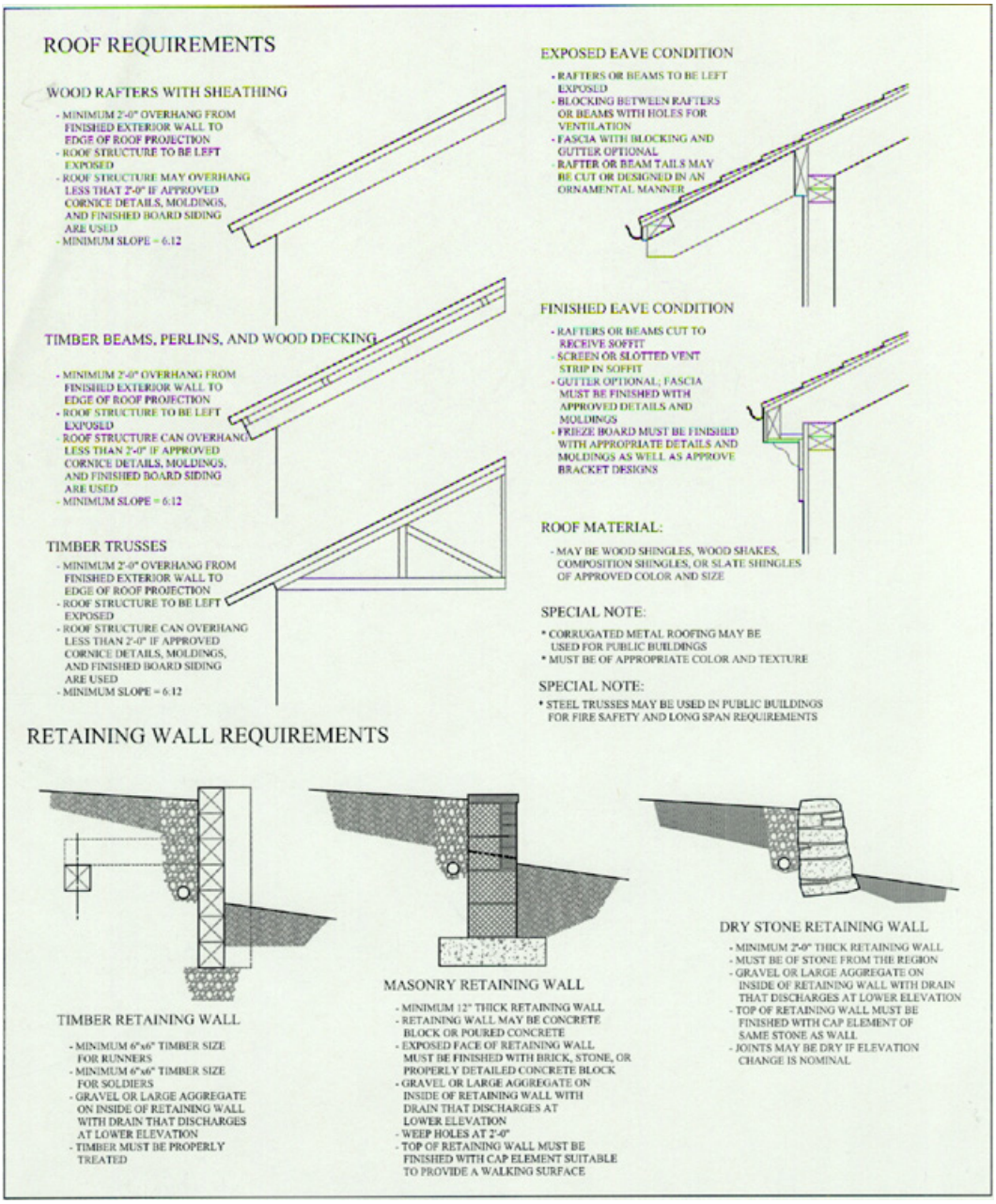
Special Foundation Requirements



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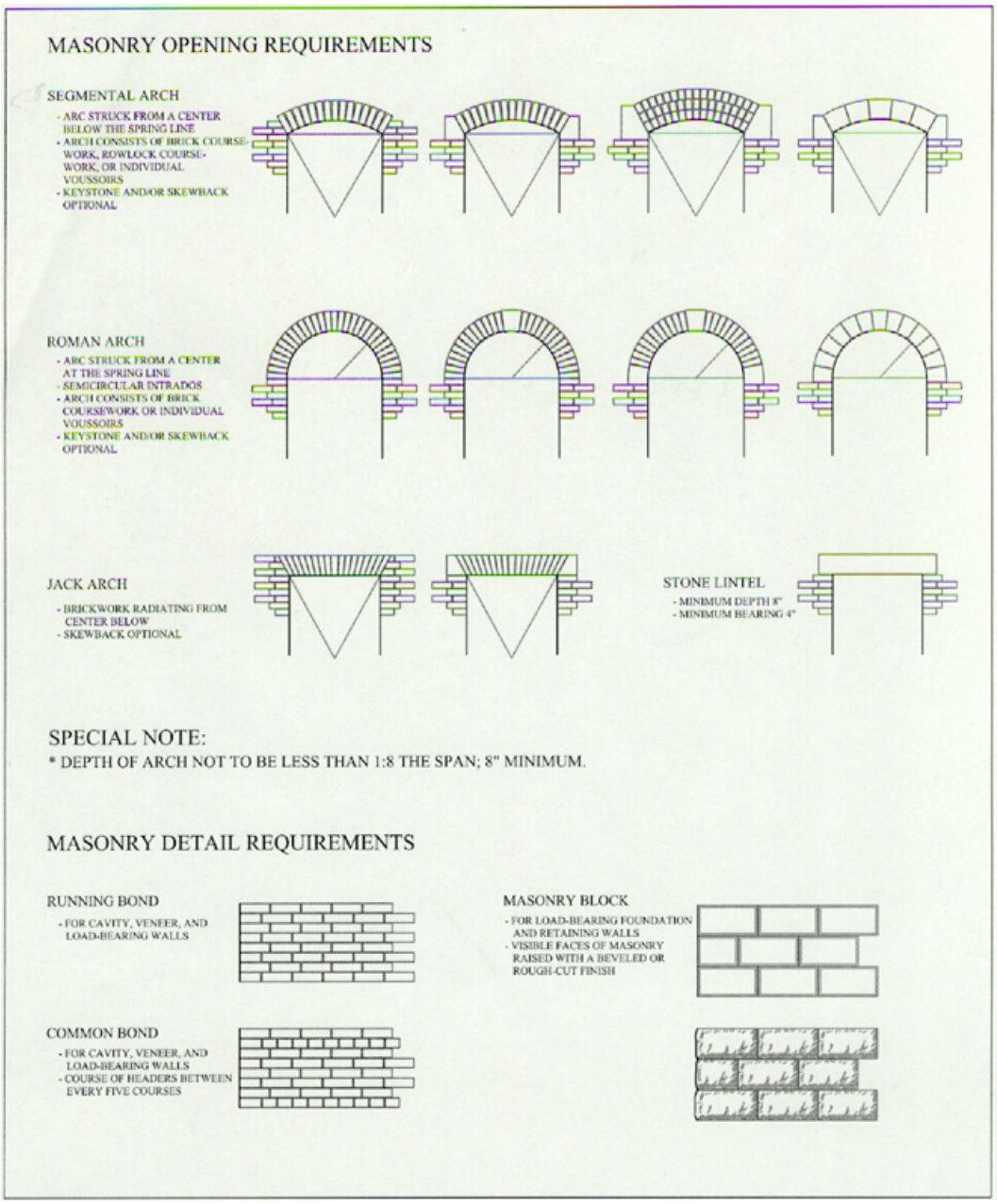
Roof and Retaining Wall Requirements



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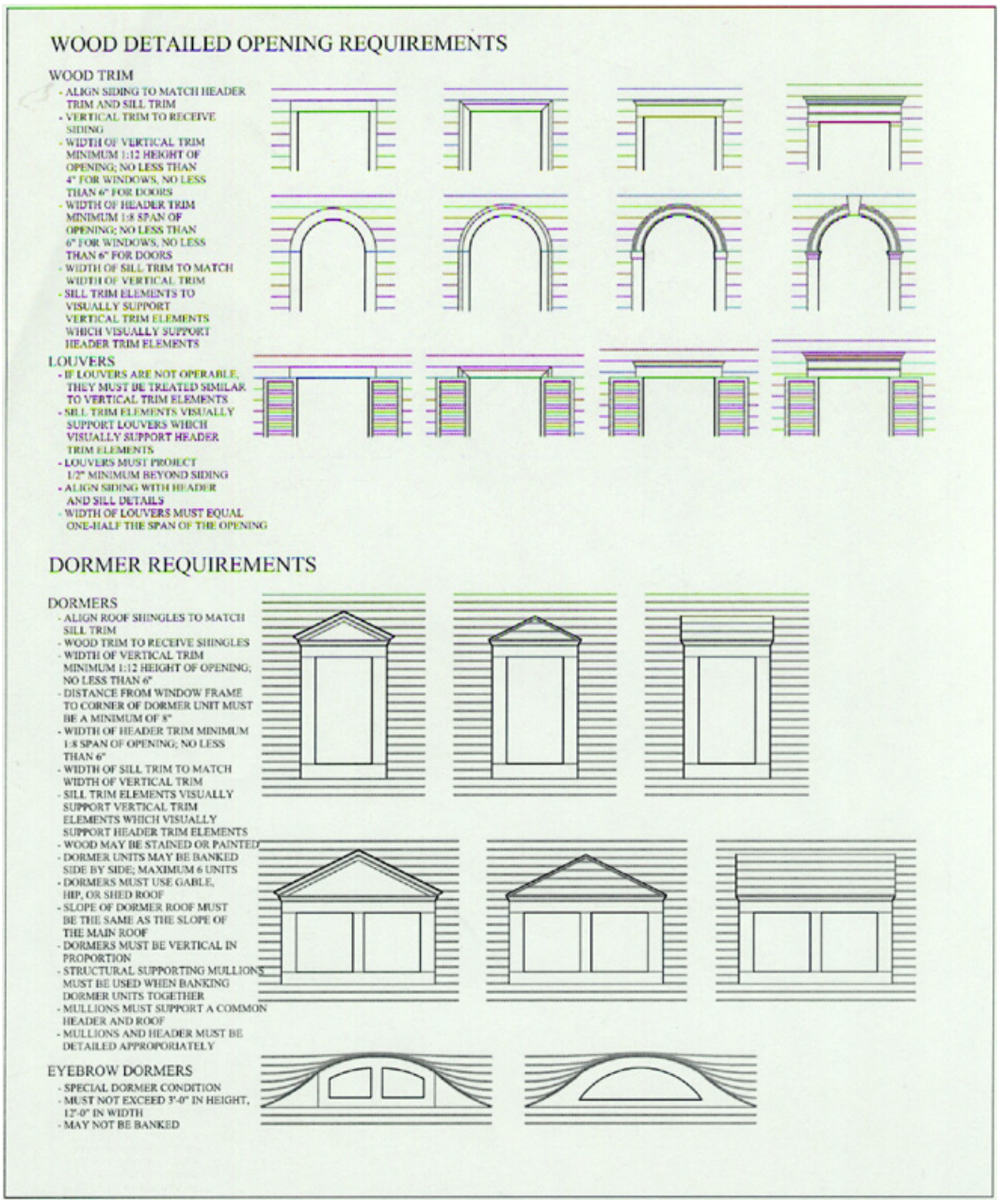
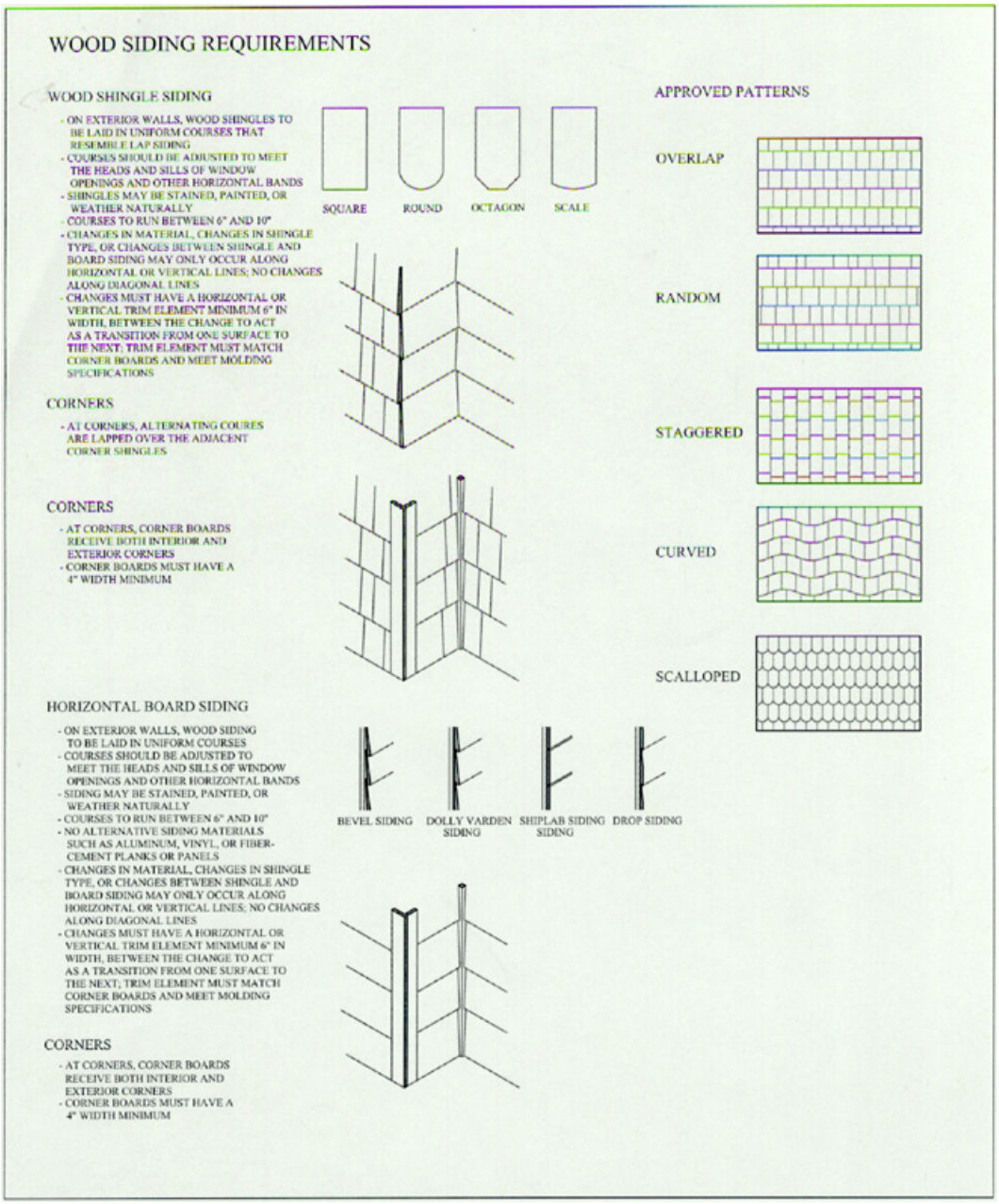
Masonry Opening and Detail Requirements



11.1.31
Wood Opening and Dormer Requirements.



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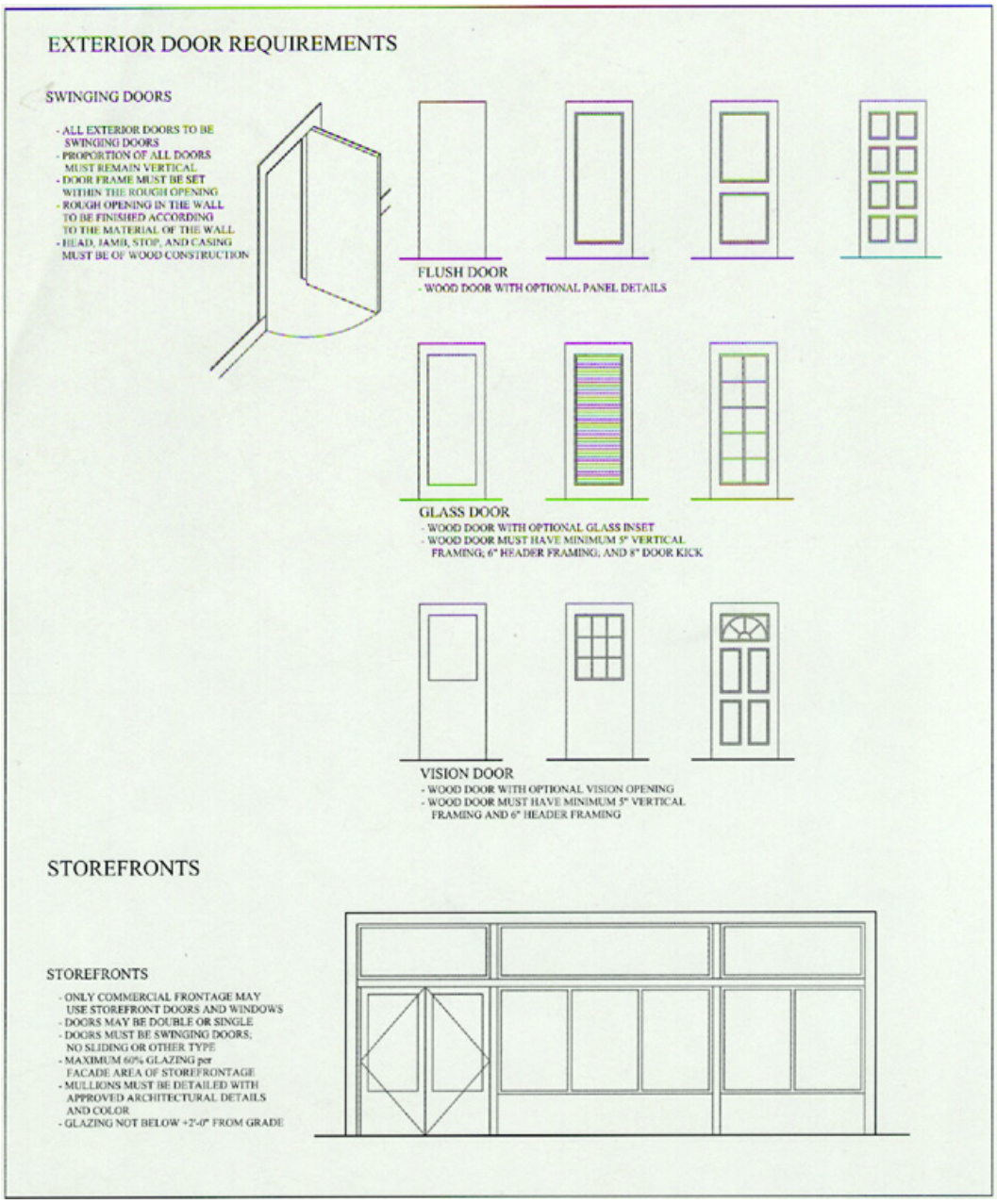
Wood Siding Requirements.



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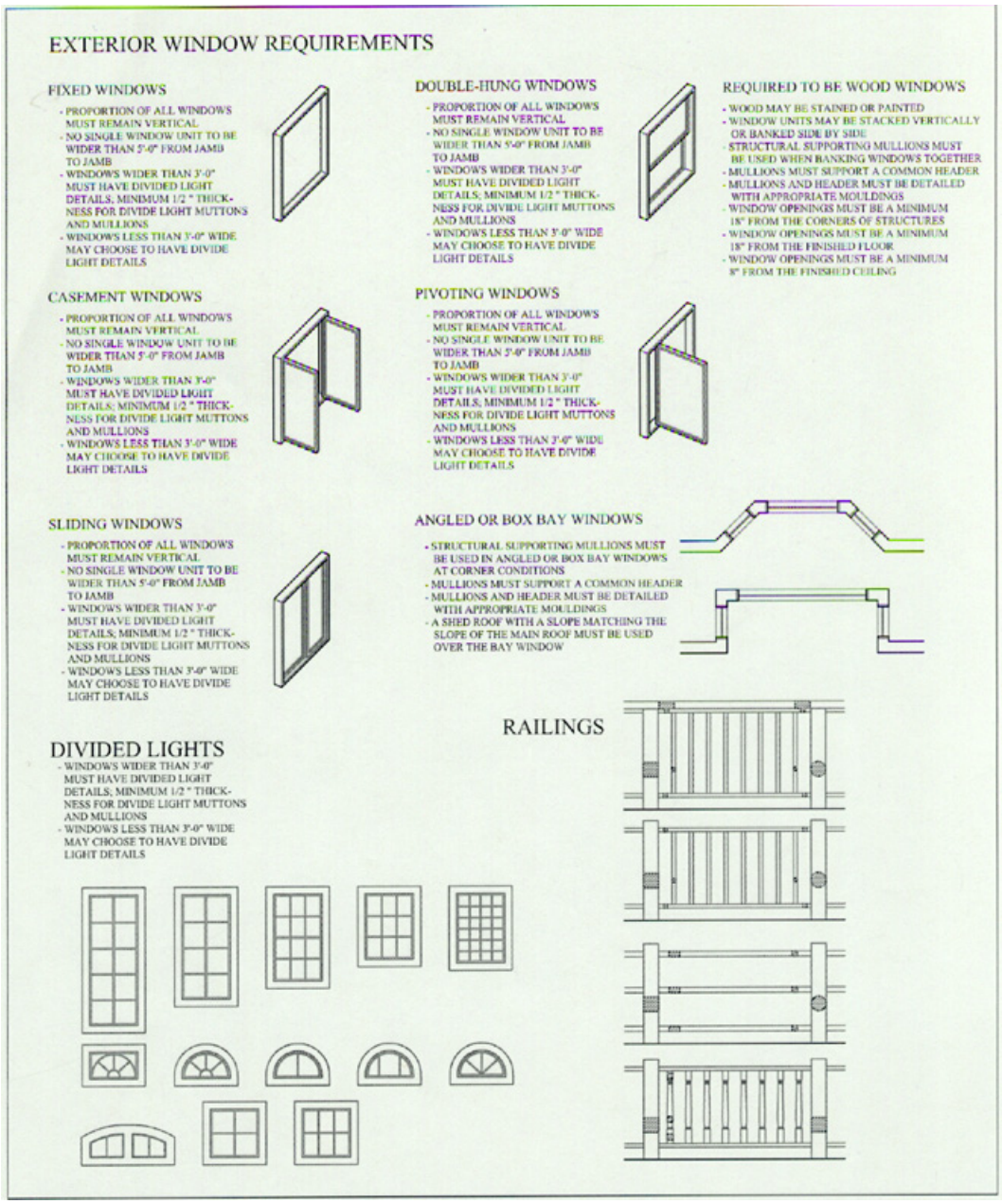
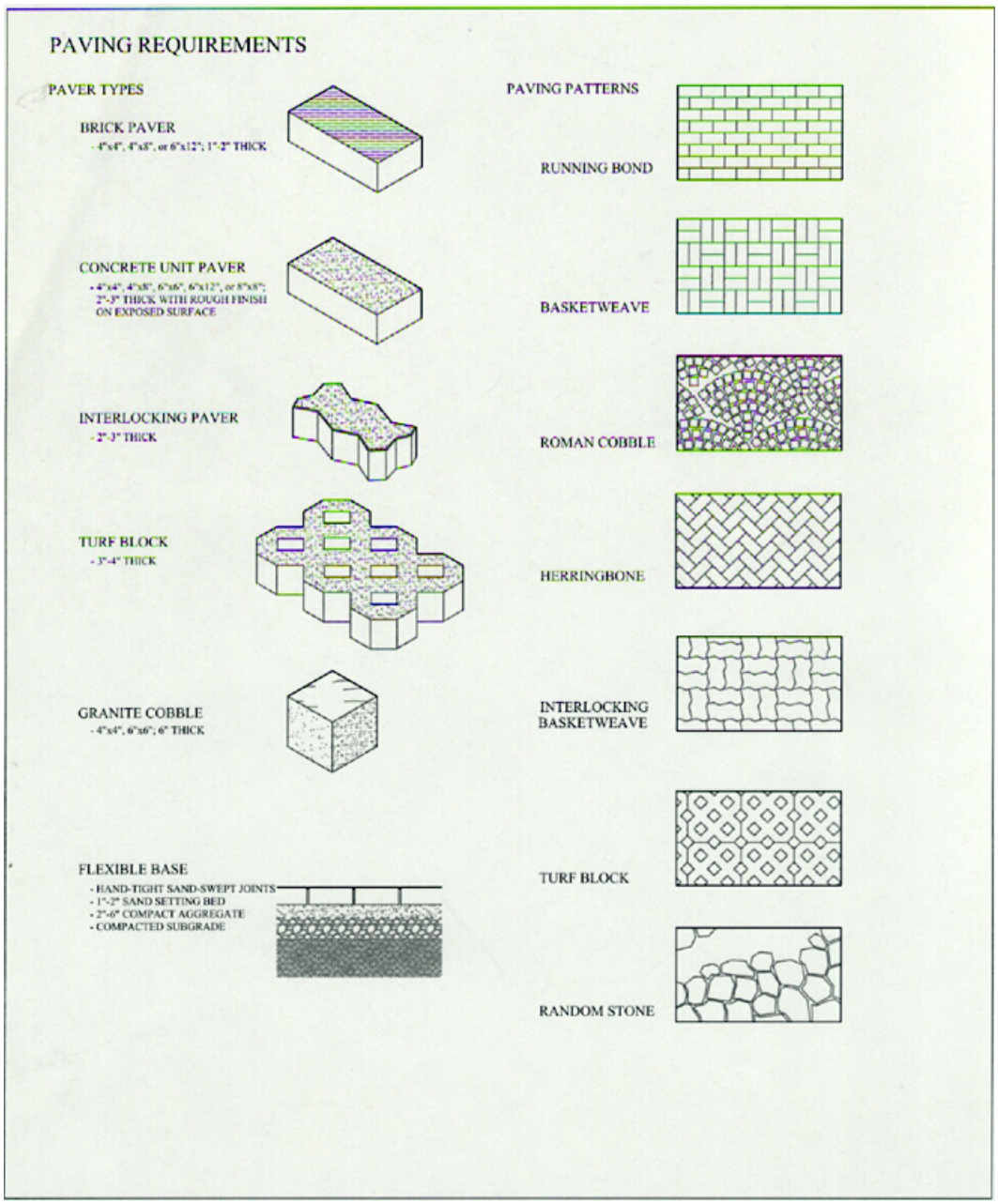
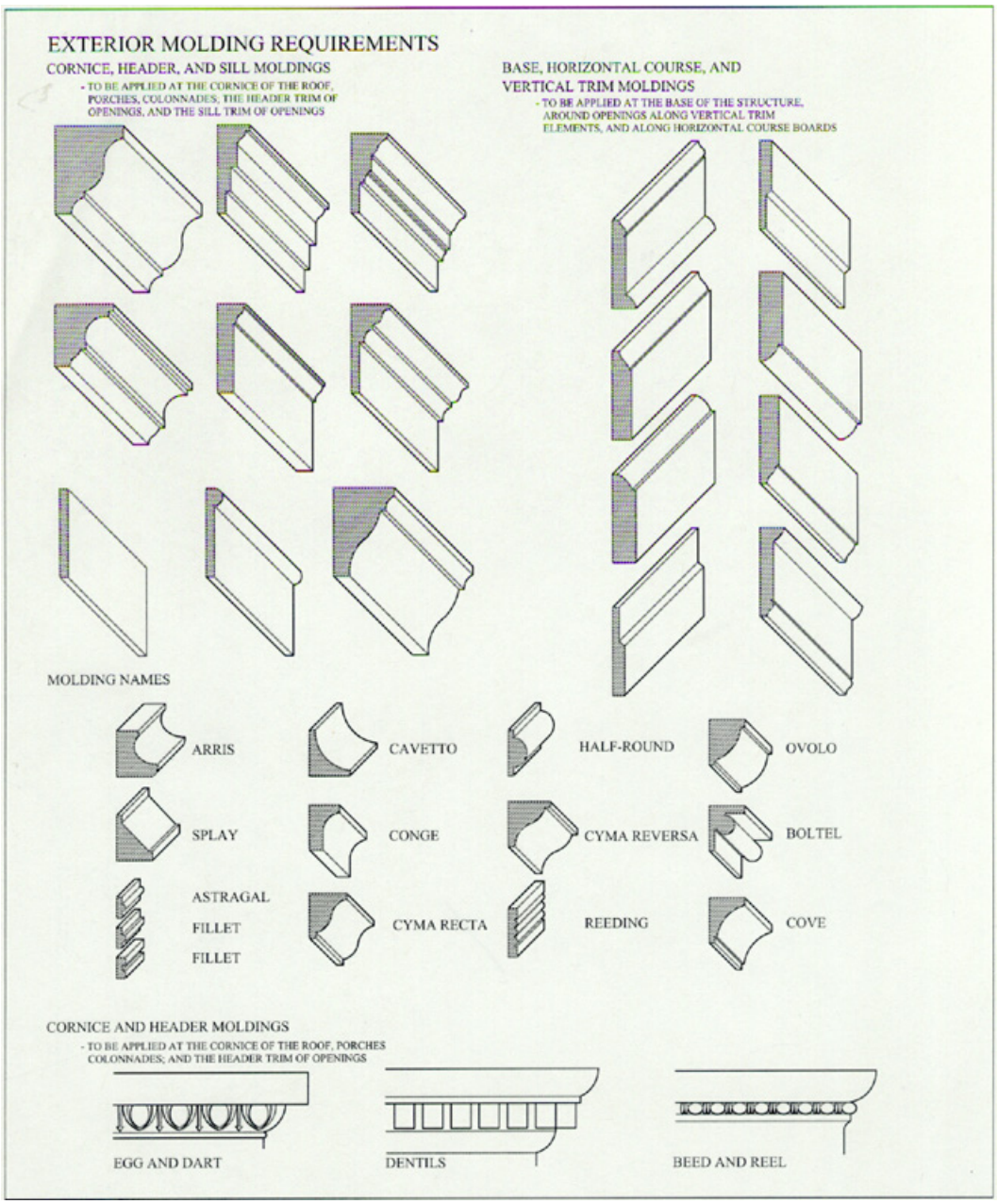
Exterior Door and Storefront Requirements.



11.1.34
Exterior Window and Railing Requirements.



11.1.35
Paving Requirements.



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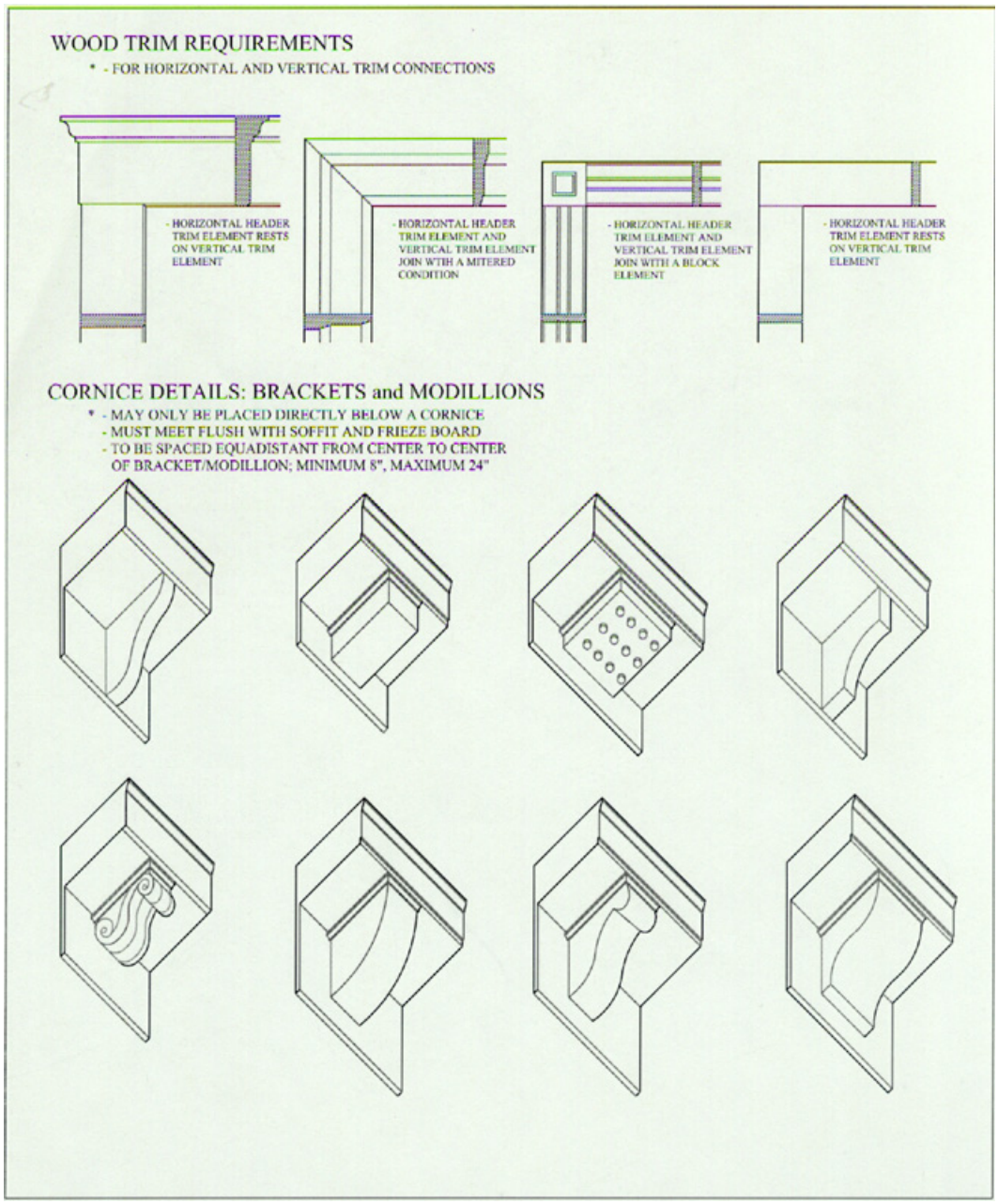
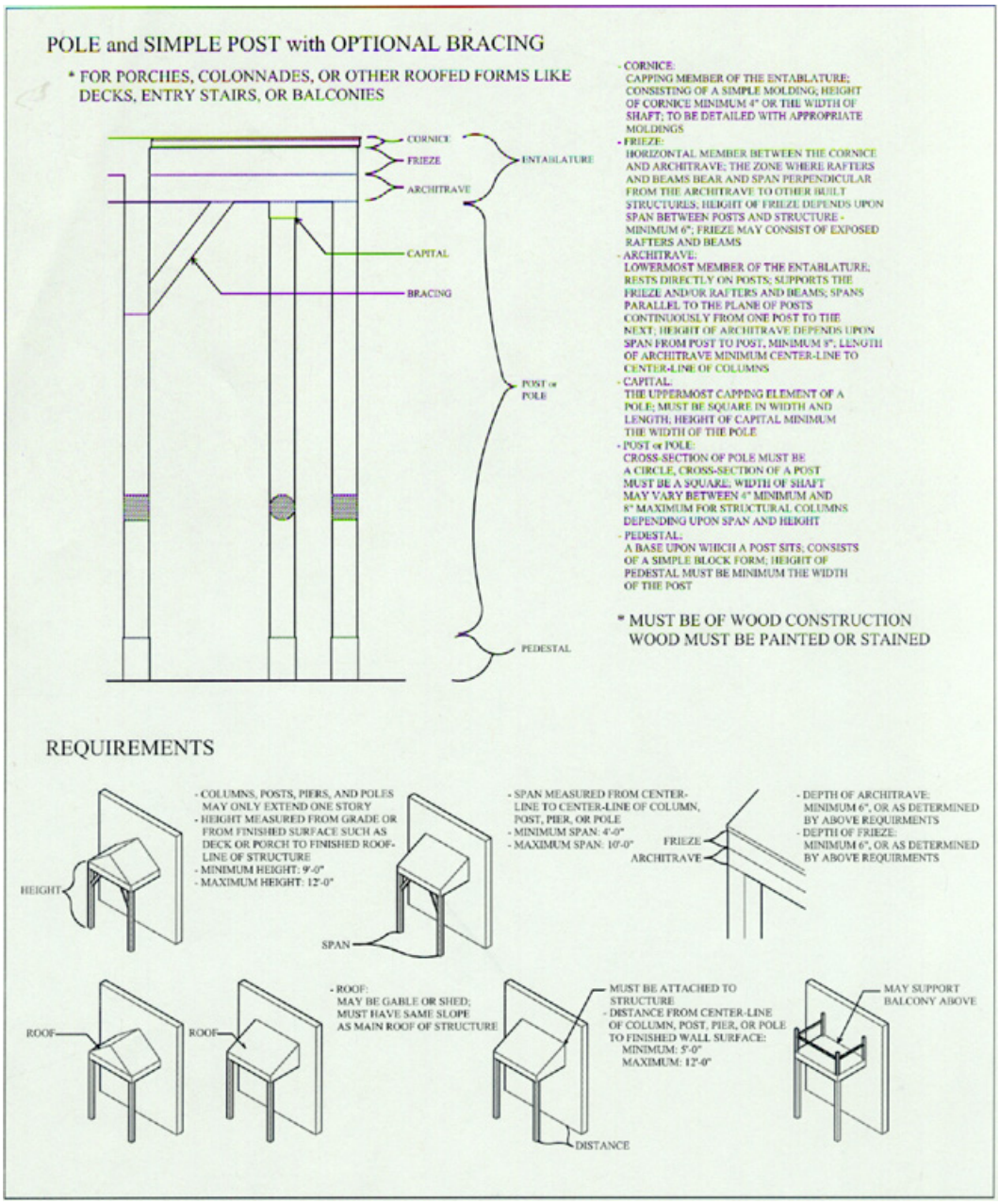
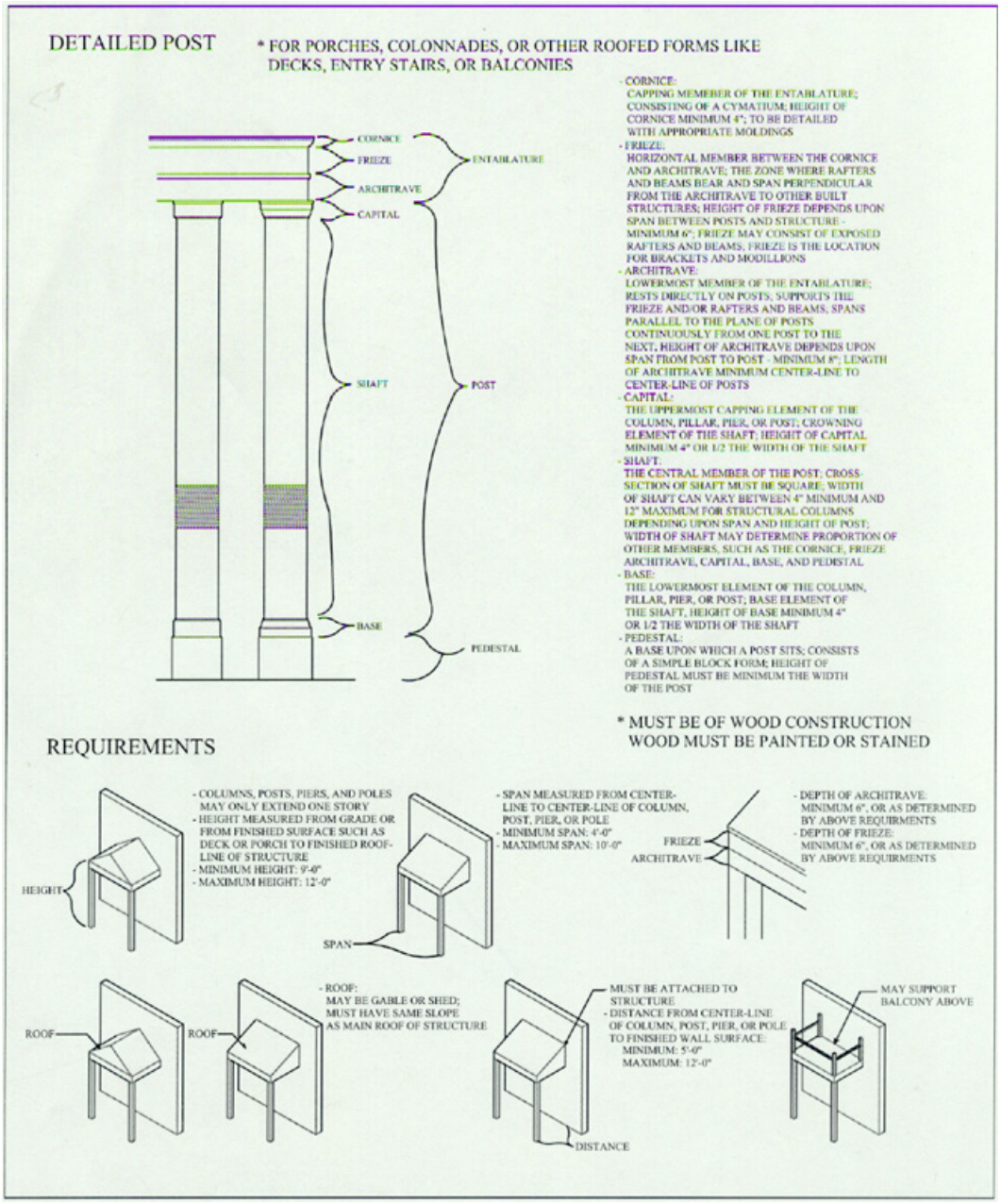
Exterior Molding Requirements.



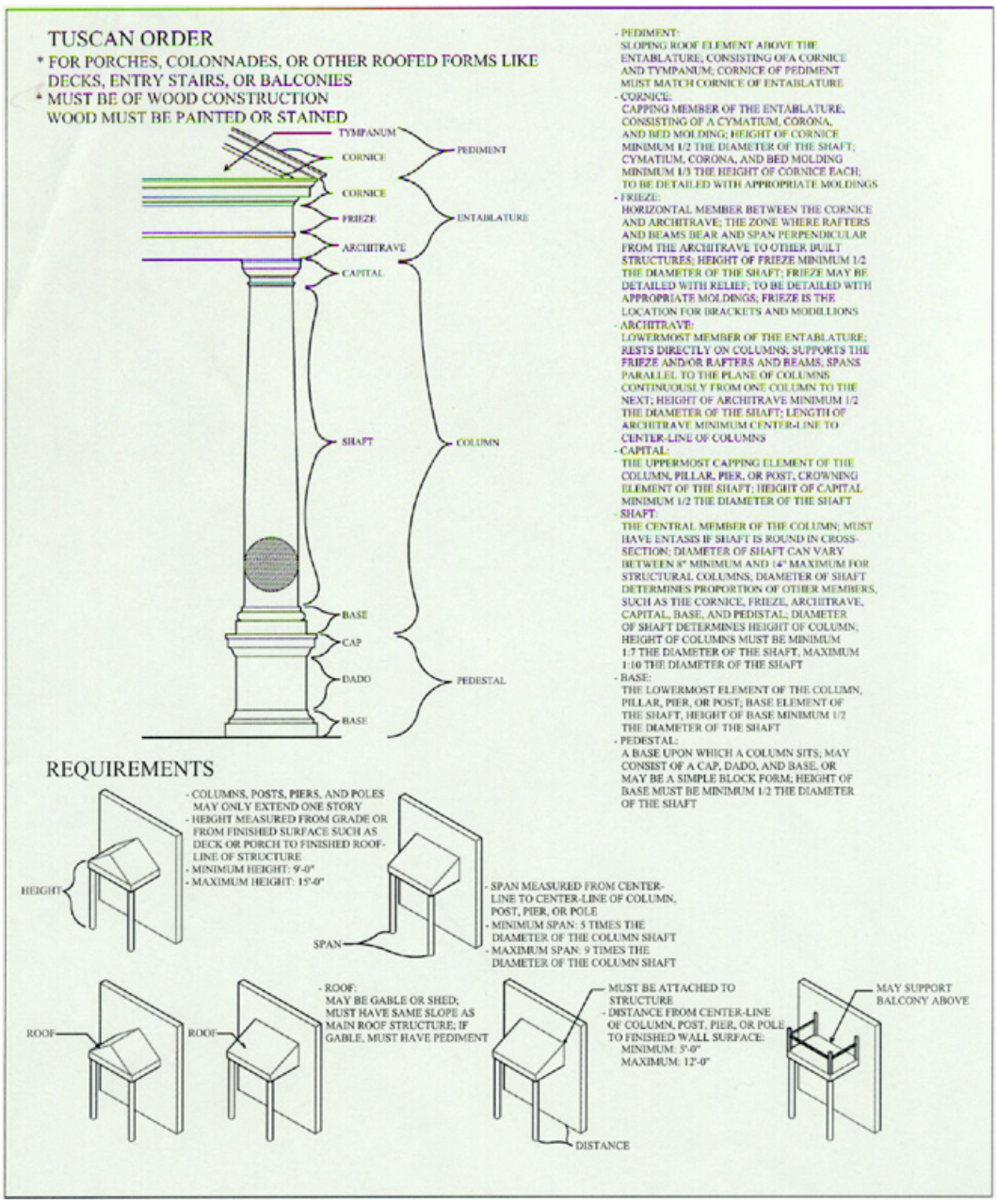
11.1.37
Wood Trim and Cornice Detail Requirements.



11.1.38
Pole and Simple Post Requirements.



11.1.39
Detailed Post Requirements.



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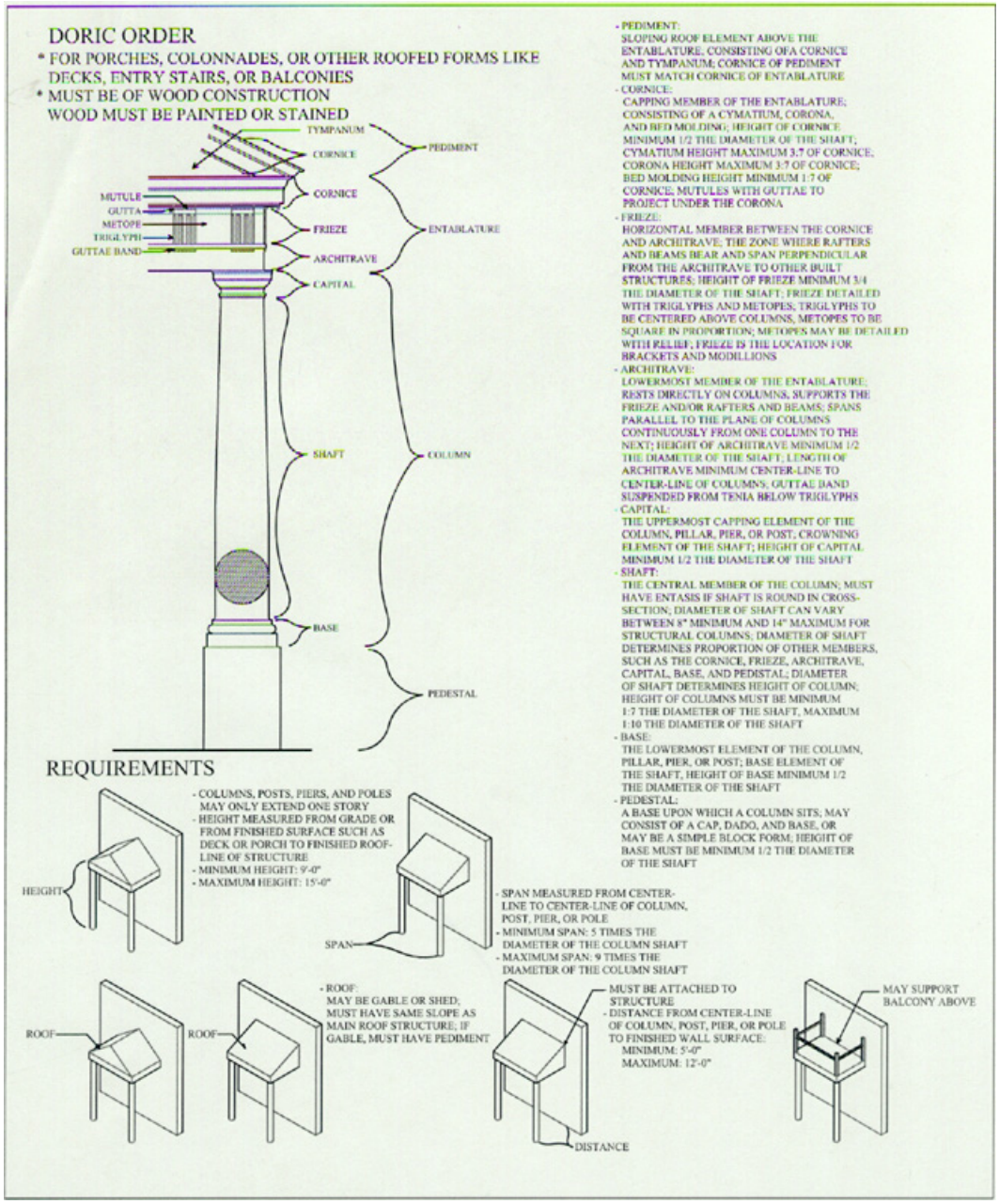
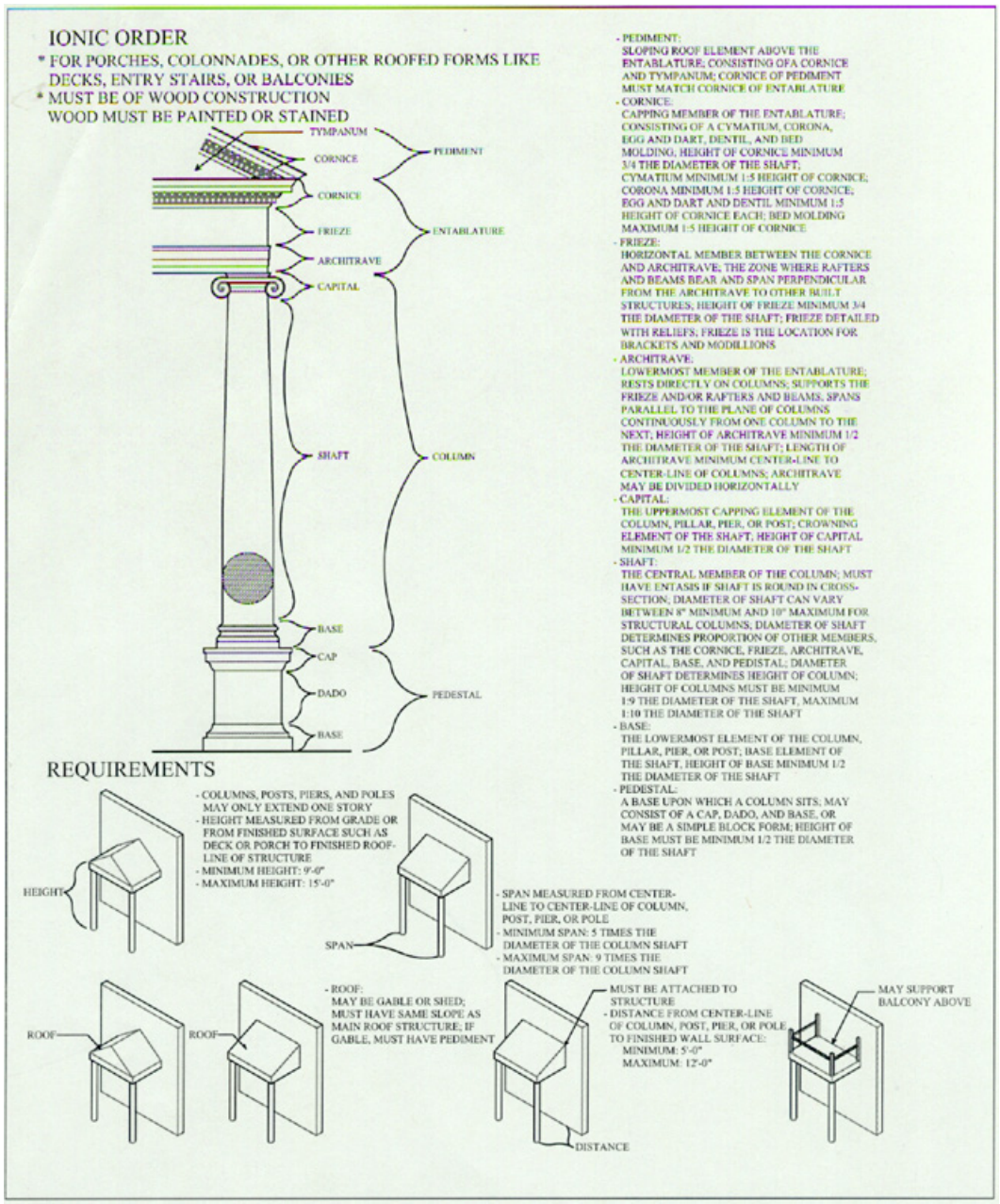
Tuscan Order Requirements.



11.1.41
Doric Order Requirements.



11.1.42
Ionic Order Requirements.

APPENDICES

While the thesis committee and the School of Architecture, Planning, and Preservation at the University of Maryland appropriately insist on a specific scope, structure, and content of the thesis document, the material contained in the appendices are in addition to the set-forth requirements. This material is intended to supplement the document. I have taken it upon myself to conduct the further research I believe to be necessary and invaluable in the thesis process and include it in the appendix. This material has a direct impact on the thesis as a whole.

Appendix A.1.1 – History and Tradition of New England Town Planning:

This thesis advocates a return to the paradigms of the traditional city as tools for design, demonstrates that history and theory of urban design are useful and necessary, and proclaims typology is essential in understanding and designing the city. As such, the history and tradition of New England town planning is essential to know and understand in order to meet these thesis goals.

A.1.1.1 – Urban Spaces of New England:

The two most prevalent and significant urban spaces in traditional New England town planning were the town square and the town green. Town planning in New England is historically unique because of these two spaces. More commonly in the United States, towns were planned with one central square.

These two spaces were used by the community equally and served as town centers associated with social events. They were both used for the drilling of militia.

The town square functioned as a market combined with other public functions while the green served as a public ground for leisure activities and the grazing of animals. Most often these spaces were planned in tandem with a civic building, such as a church or town hall. In New England tradition, the town hall (or meetinghouse) and church were often the same building and located at the city center, in a town square. In other examples, the church or meetinghouse was sited at the long end of the green, with the broad, side elevation facing onto the space.

The town square was treated as a more formal space while the green was considered informal in its design. Both were envisioned as public amenities, both served to order the town plan, and in some cases, they were intended to improve or create views of the surrounding landscape. Many New England greens were open-ended and sometimes faced onto water.

The square and the green were not thought of as geometrically regular spaces. The square was more urban than the green in terms of its surrounding functions, landscaping, and architecture. The green on the other hand was irregular in shape, almost never geometric, though frequently rectangular in proportion. It took advantage of natural features and landscaping – it was a planned open space.

The success of the New England town green can be attributed to simplicity and harmony. The careful placement of churches or town halls, the regular landscaping, and the consistent placement and orientation of single private houses of uniform design around the green created a unique space which combined formal and informal conditions that has no equal in urban planning.

Greens varied in size and shape, but openness to light and air was the major design factor. The space was framed by private houses with gardened side yards. Common architectural elements, styles, colors, and materials as well as regular setbacks and roof lines combined with the formal arrangement of trees created the effect of permeability through and around the open space without losing harmony.

A.1.1.2 – People:

The people responsible for the urban and architectural planning of New England were essentially common folk. There are no renowned planners or architects that emerged from the region; they were simple husbandmen, surveyors, and land owners.

The population of New England was quite different than the rest of colonial America because it had the least diversity. The majority of settlers came from England resulting in a very homogeneous mix. Boston, also know as "the Hub," was the only true melting pot in colonial New England.

New England was settled more slowly than the colonies to the south. The harsh winters and the poor, rocky soil made life difficult for early colonists. Slow growth, English traditions, and homogeneous population resulted in limited demand for change in architecture and urban design. Conformity was regarded as beautiful, and following tradition was not only seen as correct, but desired above all else.

The colonial architectural and urban design precedents brought over from England served as the standard for centuries. Advancements or changes in design

were usually expressed in the details. The plans and elevations remained basically the same.

It could be argued that these conditions made New England very attractive to the English. John Winthrop in *History of New England* mentioned the widespread interest the English had in New England not just economically but socially. It was truly a *new* England across the sea.

A.1.1.3 – Planners and Builders:

New England thrived on tradition because its planners and builders thrived on tradition. Thus tradition was the watch world of the day.

Planning and architecture was simple. Colonial houses were designed with similar plans and elevations while the money was shown in the details and interior. The meetinghouse and/or church were always the most ornate building. But even they were of a vernacular character.

Construction methods were as simple as the end result. Timber construction, most often oak, was the method of choice, wrapped with horizontal board siding. Field stone was used in the foundations with oyster-shell mortar. Later, post-and-truss construction was introduced. Brick was only used in the chimney, or, as a few instances, for major civic buildings. It did not make a consistent appearance as a material until the 17th century when it became economical to build in brick.

The public buildings of colonial New England were the modest Protestant meetinghouse and the church. Because of the low density, small towns, and family independence, there was never a need or demand for public buildings such as schools,

theaters, or other public functions. However, the two public typologies were of the utmost significance in the minds of the colonists. The site and architecture of the church and meetinghouse were very important; objects of pride, civic unity, and prosperity.

Like the private houses, these public types were simple in construction and detail. Exteriors were sometimes brick but usually board siding. The interiors were wood framed and detailed. The colors and materials were exactly the same as the houses. The primary entrance of the public buildings was on the short side. A bell tower or cupola capped the building, establishing its architectural and social hierarchy within the town.

Most house plans were designed around a module of 16'-0".[19] This module created bays that were repeated in line or in a square or in some other simple configuration. This module was then divided into halves and quarters and used throughout the rest of the building. The typical house consisted of four rooms, two stories high, 40'-0" long by 16'-0" wide. Fortunately, the skills a man learned building his house could be applied in shipbuilding, one of the primary industries of the region. Conversely, a shipbuilder had all the necessary skills to erect his own small house.

The form and detail of the traditional house had its roots in the English yeoman house, however it evolved into quite a different architecture in the New World; something uniquely colonial and uniquely American. All the housing types in England made an appearance in one form or another in New England. However, because of time, distance, education, materials, and priorities, and taste; specifics of

[19] Garvan

English tradition were either selected or eliminated. Those traditions that were selected later became preference – then through evolution and adaptation, uniquely American.

On the lot, the house was typically oriented with the long side as the front. The main façade was ordered through proportion, number, and symmetry. Additions were balanced around the house, while large expansions were concealed in the rear. Five-window fenestration with the main door in the center was the desired organization. The gable roof ran down the long axis of the building with a steep pitch to remove snow and provide attic space. Gables on the front were rarely seen. Projecting stories followed London's tradition and also provided a shed for rain and snow away from the doors, windows, and facade.

Perhaps the most unique condition of the traditional colonial house was that it was a typology for nearly every social class. The lower and middle-class could construct a small house of one-to-two stories, two-to-four rooms with minimal detail. However, given the simplicity of the typology, money could be saved in the details and interior while the traditional form and fenestration could be constructed. The wealthy could build a larger scale model of the type with the similar fenestration and form, but their money went into the details and interior, and perhaps even an expansion off the rear side of the house. Uniquely, the same type was for everybody, favored by everybody. This promoted and preserved the tradition, maintaining the harmony of the town and region. Today, the board siding, pitched roof, brick chimney, casement windows and wood details and forms of the typology are a signature of New England.

A.1.1.4 – Town Planning and Architecture:

As mentioned, town planning and architecture in New England remained very much the same for centuries; rural, simple, English, and Protestant. But that does not mean there was no change. Changes in architecture and planning reflected three things: first, as New England grew with immigration, fresh minds brought fresh ideas; second, books were imported from Europe illustrating designs and theory; and third, Americans traveled to Europe and brought back new information and knowledge.

In terms of planning and architecture; streets, homes, and meetinghouses represented the humble and orderly nature of the rural Protestant colonists. Further, given the harsh climate, the practical need of survival was at the forefront leaving simplicity as both a preference and a logical solution. Colonists used the experience of the previous generations to plan streets and property allotments rather than spending valuable time seeking innovation.

It is quite possible that the characteristics of the medieval English bastide towns formed the foundation of New England town planning. A large number of similarities exist between the medieval towns and the colonial towns of centuries later. Three town types are prevalent in both eras of planning: the linear town, the nuclear town, and the bastide town.

The linear town plan consisted of at least two roads with cottages on either side. The cottages edged the street, identifying an imageable path. The lots along the street were defined as home lots, ranging from two to six acres in size, narrow in

proportion, and stretched from the street out into the landscape. The parish church was typically sited at one end of the principle street or in the town square.

The nuclear village usually consisted of an easily identifiable town square and a network of streets that radiated from the center. The houses were clumped together near the center of town on home lots. The farming land was outside the nucleus, unattached to the home lot. This plan type was the result of two things: one, the environment and agricultural lifestyle required a living condition in which people were close to one another; and two, the topographic conditions required such a development pattern.

The bastide town was a continued strategic development in England from the medieval period. As such, it served as a model for New England. With the bastide tradition, parade grounds were typically planned. This could be the sponsor of the New England town green. The street pattern consisted of a grid that ran parallel to the principle cross axis of the town. The houses edged the streets with large gardens and back lots. The land lot for the established church was always planned first along with the military fortification.

A.1.1.5 – Connecticut Examples:

Saybrook, New London, and New Haven are just a few of the many New England colonial towns in Connecticut. Saybrook and New London flank the thesis site to the west and east respectively. New Haven is an example of the European Rnaissance planning and theory making its way over to New England and changing the tradition.

The colonial plans of Saybrook and New London resemble English bastide towns in Ireland and Scotland. They were both built on the banks of streams or near salt marshes for the purpose of defense and pasturage. They are sited on narrow points jutting out into Long Island Sound which made the towns easy to fortify. The average lot size ranged from one-to-five acres, intended for both the house and farm land. Land lots at chosen locations were reserved for the meetinghouse or church and for the minister's house. These sites were at the edge of the town center or green, or at the intersection of two important roads. The street pattern was a grid formed by the topographic conditions, the shoreline, and land allotments. Access to personal property was the driving force behind secondary and tertiary street orientation and pattern. This resulted in seemingly random connections within the town plan. The product was usually a clear and orderly organization at the center of town vs. wandering lanes at the edges.

New Haven, like Saybrook and New London, was also a port town, but planned unlike any other town in New England. New Haven's plan is the embodiment of the English Renaissance in the New World and is the premier example of Vitruvius at work across the ocean.[20] It is not of the same tradition as other towns in Connecticut. Like its Renaissance counterparts, it had a rigid grid pattern with specific dimensions and geometric intentions. No deviation from the grid was permitted. The grid disregarded the topography and the port and ignored connections to the surrounding roads and fields. In fact, the site was chosen because it was the lot of land which could accommodate the paper plan.[21]

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[20] It is worth noting that New Haven was planned prior to the plans for London after the fire of 1666.
[21] Garvan.

Though the design was not of the same tradition as typical New England town planning, it did preserve many characteristics. The houses lined the streets allowing for ample back yards for agriculture. A green serves as the center of town and the site for the church.

A.1.1.6 – Land and Agriculture:

New England colonial town planning was fundamentally different than planning today in that the most important thing was to determine the location and size of appropriate land allotments for both public use and private agriculture. The layout of land allotments was even more critical than the planning of the actual town; meaning pragmatics such as street grids and widths and public space size were secondary.

This condition is made apparent today in the winding streets, the odd intersections, and the extent of the town limits. Historically, it was not uncommon for the density to be as low as 10 people per square mile in a town. This was because town lines encompassed all the farm land. Further, men could own up to 1500 acres between land and home lots within the same town.[22] At first, land allotments followed English tradition of nuclear villages with land allotments outside the nucleus. However, that tradition gave way to extending the land from the home allotments out into the landscape several miles. Essentially, the backyard became a long, narrow strip of farm land. An excellent example of this is the plan of Wethersfield, Connecticut. The shear size of the land allotments is unprecedented in

[22] Garvan.

any other type of planning in America. Land ownership is what made the New England township practical.[23]

Appendix A.1.2 – Examples of Mistaken Planning Ideology vs. Successful Tradition:

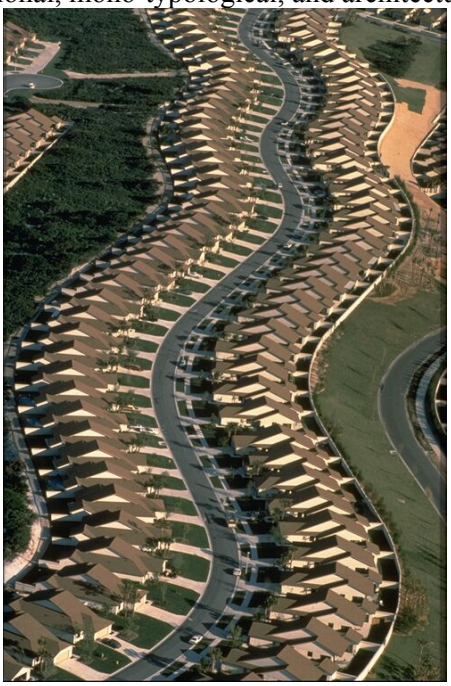
Examples[24] of poor planning ideology and execution both nationwide and in New England are shown in the gallery of plates (Plates 177 - 186) at the end of this section.[25] Examples of good planning ideology and execution both nationwide and in New England are also shown. The captions provide explanation for each image.

[23] Trewartha, Glenn T. "Types of Rural Settlement in Colonial America." Geographical Review, XXXVI, 1946, pg. 595-596.
[24] Images courtesy of the University of Maryland School of Architecture, Planning, and Preservation Slide Library and Professor Karl DuPuy.
[25] Please refer to Chapter 2 in conjunction with this appendix section for examples of poor planning and execution near the thesis site.

A.1.2.1
Poor Suburban Planning in the Midwest. This image is typical of the current state of suburban planning in the United States. All houses are in particular pocket of development are designed to look the same, there is no variation. The street patters are irrational and no hierarchy can be discerned.

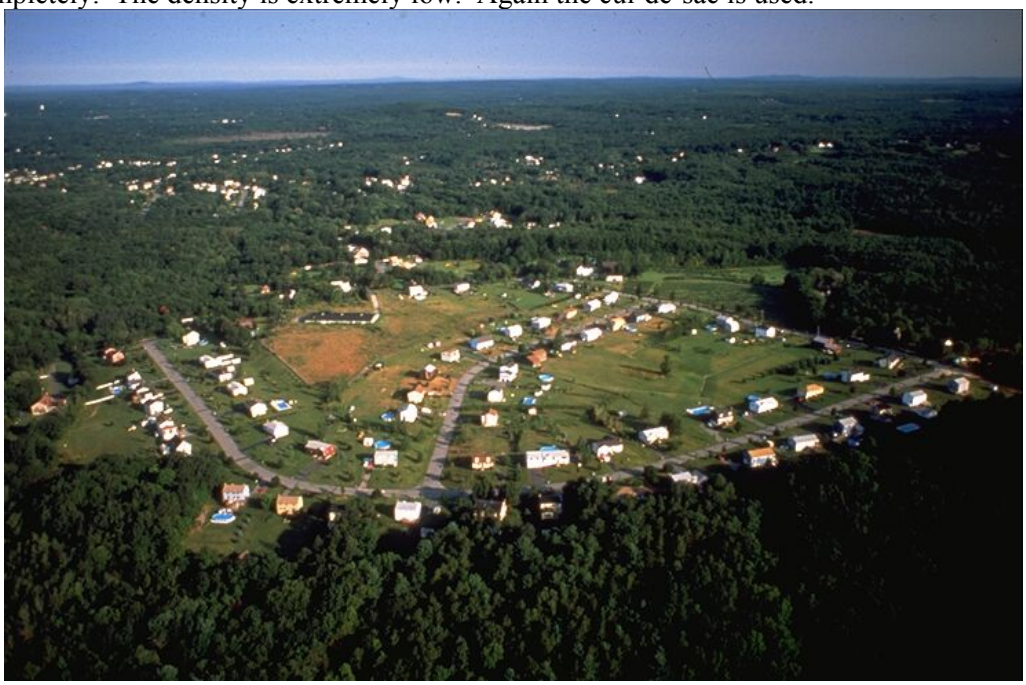
A.1.2.2
Poor Suburban Planning in the Midwest. This image shows how the cul-de-sac fails as an urban form. There exists no reason for four cul-de-sacs to be used in place of two through streets. This is also an example of the limited scope of developers and their failure to plan for the future.

A.1.2.3.
Poor Unit Planning in the Midwest. Apartment and condo units are planned in a green field serviced by only one street typology: the arterial road. No private land is available to residents. Public land is ambiguous. Parking lots serve as the front yards and streets. The development is mono-functional, mono-typological, and architecturally bland.



A.1.2.4
Poor Street Planning in the West. In some developments, the street as a typology is lost. In this image, the street is replaced by the road. The road strangely meanders and is lined with mono-functional, mono-typological, and architecturally bland houses.

A.1.2.5
Poor Development in New England. The mistaken planning ideology is a nationwide problem also emerging in New England. This suburb of Andover, Massachusetts, shows development sprawling into the natural landscape. The woodlands have been cleared completely. The density is extremely low. Again the cul-de-sac is used.



A.1.2.6
Poor Development in New England. Haverhill, Massachusetts, irresponsibly expands into the environment with suburban sprawl. The development pattern is inefficient, failing to use the large tract of land more productively.

A.1.2.7
Poor Suburban Development in New England. In Jericho, Vermont, the cul-de-sac is again used rather than a through street. The houses have no recognizable arrangement on the lots, and the density is extremely low.

A.1.2.8
Poor Suburban Development in New England. In this development of Mendon, Massachusetts, there is no comprehensive plan for development, merely a cul-de-sac extending into the landscape. Typical of most new developments, the road is overly-wide for no reason.

A.1.2.9
Poor Street and Pedestrian Throughway. This image is typical of the condition of streets and sidewalks of new developments in the United States. The pedestrian throughway is disregarded completely (notice the bus stop) for the sake of the automobile. Both the landscape and hardscape have fallen into disrepair.

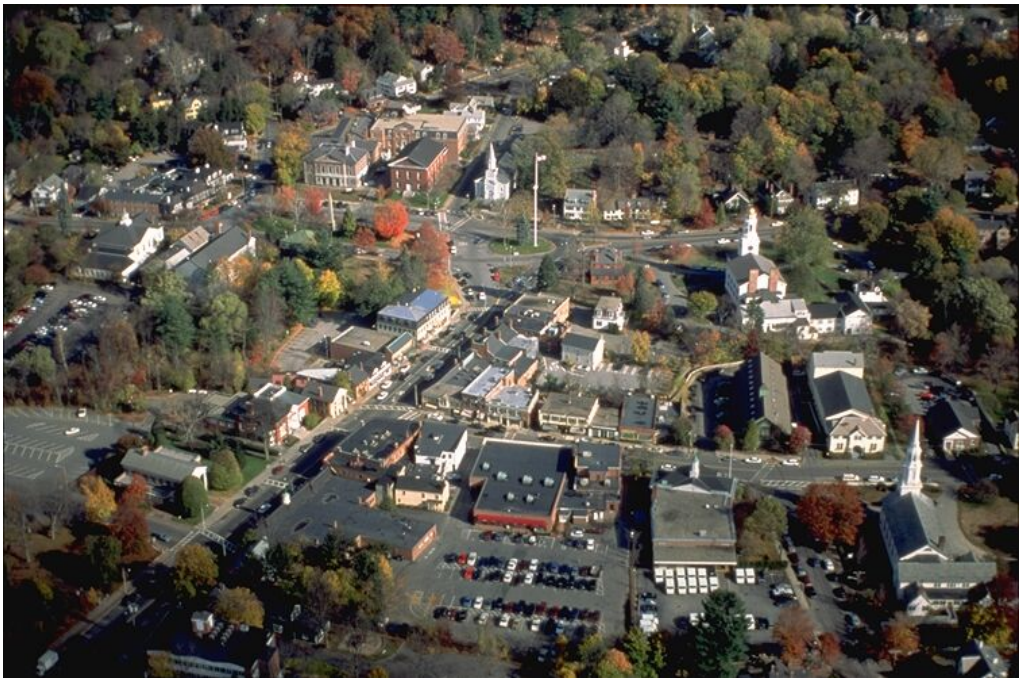
A.1.2.10
Poor Commercial Street. Typical of new commercial streets, the storefronts are pulled away from the street edge to make room for parking on the lot. The pedestrian environment is extremely poor and dangerous. Parallel parking is removed from the street to maximize the lane width and speed of traffic. No imageable street path exists in this type of planning.

A.1.2.11
Poor Street and Pedestrian Condition. No sidewalk or crosswalk is provided for the pedestrian.

A.1.2.12
Poor Street. This image shows the typical condition of streets across the country. They are no longer streets, but roads. This is an example of an arterial road which is designed to accommodate a mass of automobiles, providing the only means of access to various locations. The traffic and development would be better accommodated by a network of streets, balancing the volume and increasing efficiency with multiple means of access.

A.1.2.13
Good Development in New England. Beacon Hill is one of the finest examples of development in American history. It, like nearly all good examples of development, occurred prior to World War II. Its network of streets and squares create a positive urban environment full of character. Public space and private space is clearly defined. Streets are imageable paths which are pedestrian friendly. The density is high and the neighborhood is multi-functional. The architecture is varied to a great degree but maintains harmony through the use of similar materials and colors.

A.1.2.14
Good Development in New England. Bristol, Rhode Island, appropriately utilizes the site conditions, has a clear development and street pattern, and has multiple urban and architectural typologies which enrich the community.



A.1.2.15
Good Development in New England. Concord, Massachusetts, utilizes multiple private and public building typologies to create an identifiable town center. The density is logically developed; higher density at the center, lower density at the edges. Both the automobile and the pedestrian function together in this community.

A.1.2.16
Good Development in New England. Lexington, Massachusetts is one of many successful examples of traditional town planning. Traditional planning needs to be a resource for the future. These traditional towns are models for what should be planned today.

A.1.2.17
Good Street. The street as a typology needs to be brought back as one of the most important typologies in urban planning and design. The street is the public domain and serves as the means by which the pedestrian and the automobile can function together. The pedestrian throughway is a design opportunity that should not be overlooked.

A.1.2.18
Good Street. Street widths should be designed to accommodate automobile traffic as well as on-street parking. They should not be designed to maximize the speed at which vehicles travel. The scale, landscaping, and set-back of buildings are critical relationships that must be designed appropriately.

A.1.2.19
Good Street. Imageable streets should be the goal of a designer. Building facades should line the street edge to create an urban wall. Landscaping should also be used to reinforce the urban wall while providing a rhythm to both the street and the building facades.

A.1.2.20
Good Street and Urban Space. Woodstock, Vermont shows how imageable streets and spaces work together; balancing automobile and pedestrian traffic, identifying important nodes and centers, and giving hierarchy to the town fabric and architecture. It cannot be stressed enough how successful and valuable traditional town planning paradigms are.

Appendix A.1.3 – Understanding the Problem and The Traditional City:

This appendix contains diagrams that explore and define the Traditional City Type and the problems of some contemporary planning ideology. The diagrams are shown in the gallery of plates (Plates 187 - 194) at the end of this section. The captions provide explanation for each image.

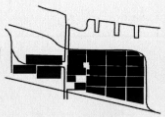
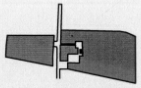
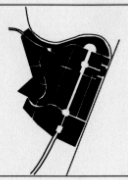
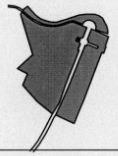
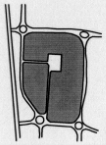
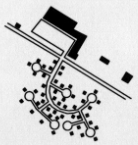
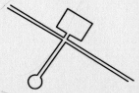
CITY THROUGH TIME:

PERIOD	PLAN	DIAGRAM	LIMITS EDGES	ACCESS	SPACES		BUILDING TYPES			THRES-HOLD	SITE	TYPE
					Public Secular	Private Sacred	Sacred	House	Public			
GREEK			WALLS RIVERS HILLS POPULATION DEFINED	WATER ROADS TO THE CENTER OF THE CITY	AGORA STREET LOCAL SQUARE	ACROPOLIS COURT-YARD	TEMPLE	COURT-YARD HOUSE SINGLE-ROOM	THEATER STOA LIBRARY SENATE HOUSE	CITY GATE PROPILAYA	SITE DEPEND-ENT FINITE IDENTITY CULTURE	CITY
ROMAN			WALLS RIVERS HILLS POPULATION DEFINED	WATER ROADS TO THE CENTER OF THE CITY	FORUM STREET LOCAL SQUARE	FORUM COURT-YARD	TEMPLE	COURT-YARD HOUSE SINGLE-ROOM APART-MENT	THEATER TABERNAE LIBRARY CURIA BATHS AMPHI-THEATER	CITY GATE TRIUMPHAL ARCH	SITE DEPEND-ENT FINITE IDENTITY CULTURE	CITY
MEDIEVAL			WALLS RIVERS HILLS POPULATION DEFINED	WATER ROADS TO THE CENTER OF THE CITY	MARKET SQUARE STREET LOCAL SQUARE	PARVIS BACK-YARD	CHURCH	HOUSE SINGLE-ROOM APART-MENT CASTLE PALAZZO	CASTLE MARKETS PALAZZO TOWN HALL	CITY GATE	SITE DEPEND-ENT FINITE IDENTITY CULTURE	CITY
RENAISS-ANCE			WALLS RIVERS HILLS POPULATION DEFINED	WATER ROADS TO THE CENTER OF THE CITY	MARKET SQUARE STREET PIAZZA LOCAL SQUARE	PARVIS BACK-YARD COURT-YARD	CHURCH	COURT-YARD HOUSE SINGLE-ROOM APART-MENT HOUSE PALAZZO	CASTLE MARKETS PALAZZO TOWN HALL THEATER LIBRARY	CITY GATE COLONNADES	SITE DEPEND-ENT FINITE IDENTITY CULTURE	CITY
BAROQUE			WALLS RIVERS HILLS POPULATION DEFINED	WATER ROADS TO THE CENTER OF THE CITY	MARKET SQUARE STREET PIAZZA LOCAL SQUARE	PARVIS BACK-YARD COURT-YARD	CHURCH	COURT-YARD HOUSE SINGLE-ROOM APART-MENT HOUSE PALAZZO	MARKETS PALAZZO TOWN HALL THEATER LIBRARY	CITY GATE COLONNADES URBAN GATES	SITE DEPEND-ENT FINITE IDENTITY CULTURE	CITY

A.1.3.1

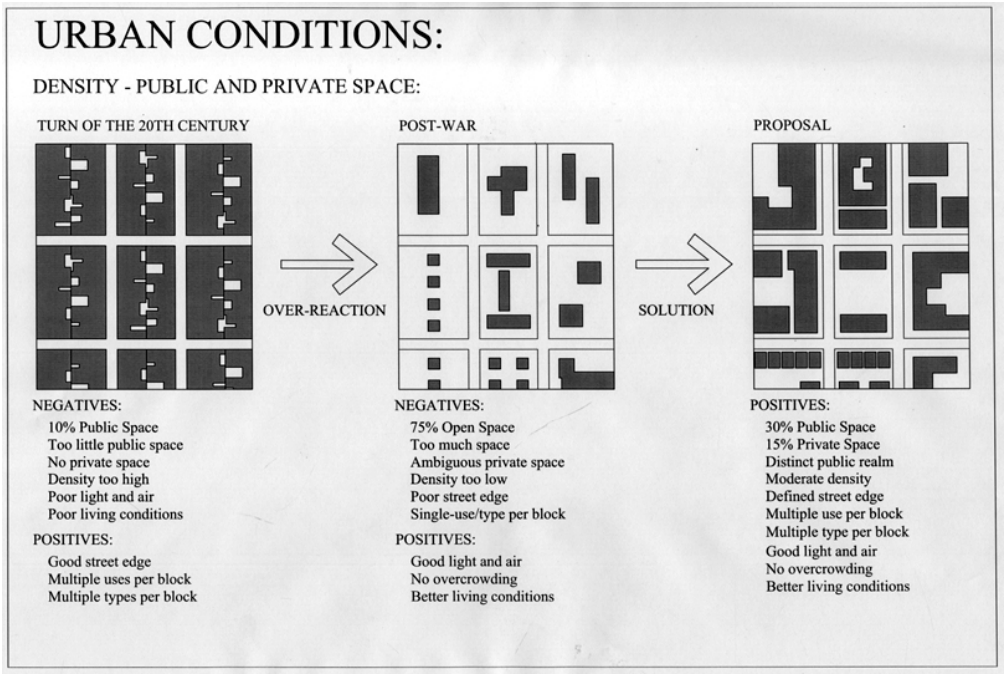
The City Through Time. This is the first of two charts that compare city planning of different periods. These pre-World War II, traditional examples have an overwhelming number of commonalities illustrating the characteristics of the Traditional City Type.

CITY THROUGH TIME:

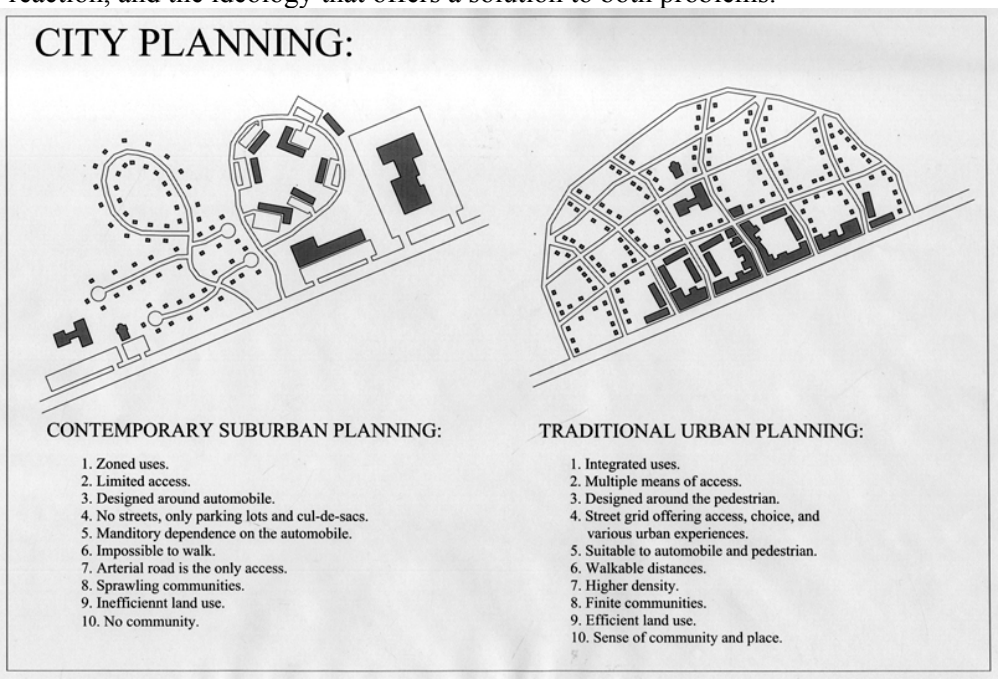
PERIOD	PLAN	DIAGRAM	LIMITS EDGES	ACCESS	SPACES		BUILDING TYPES			THRES-HOLD	SITE	TYPE
					Public Secular	Private Sacred	Sacred	House	Public			
INDUST-RIAL			RIVERS HILLS POPULATION RAILROADS DEFINED	WATER ROADS TO THE CENTER OF THE CITY RAILROADS	MARKET SQUARE STREET PIAZZA LOCAL SQUARE	CHURCH GREEN BACK-YARD COURT-YARD	CHURCH	APART-MENT HOUSE	MARKETS INDUSTRY TOWN HALL THEATER LIBRARY	TRAIN STATION DISTINCT CITY EDGE	SITE DEPEND-ENT FINITE IDENTITY CULTURE	CITY
GARDEN CITY			RIVERS HILLS POPULATION GREEN/PARK RAILROADS DEFINED	WATER ROADS TO THE CENTER OF THE CITY RAILROADS	MARKET SQUARE STREET PIAZZA GREEN LOCAL SQUARE	CHURCH GREEN BACK-YARD COURT-YARD	CHURCH	APART-MENT HOUSE	MARKETS INDUSTRY TOWN HALL THEATER LIBRARY	TRAIN STATION DISTINCT CITY EDGE	SITE DEPEND-ENT FINITE IDENTITY CULTURE	CITY
POST-WAR			HIGHWAYS POPULATION NOT DEFINED	HIGHWAYS ARTERIALS PARKING	CENTRAL SPACE	AMBIG-UOUS YARD	NONE	APART-MENT HOUSE	MARKETS INDUSTRY	NONE	INDEPENDENT OF SITE AMBIGUOUS NO IDENTITY DISREGARD CULTURE	RESIDUE OF CITY
CONTEMP-ORARY			OWNERSHIP NONE	HIGHWAYS ARTERIALS PARKING	PARKING	AMBIG-UOUS YARD LOT	NONE	APART-MENT HOUSE	MALL SERVICE STATION	NONE	INDEPENDENT OF SITE INFINTE SPRAWLING NO IDENTITY DISREGARD CULTURE	TOTAL DENIAL OF TYPE NO LONGER A CITY
TO-MORROW	?	?	?	?	?	?	?	?	?	?	?	?

A.1.3.2

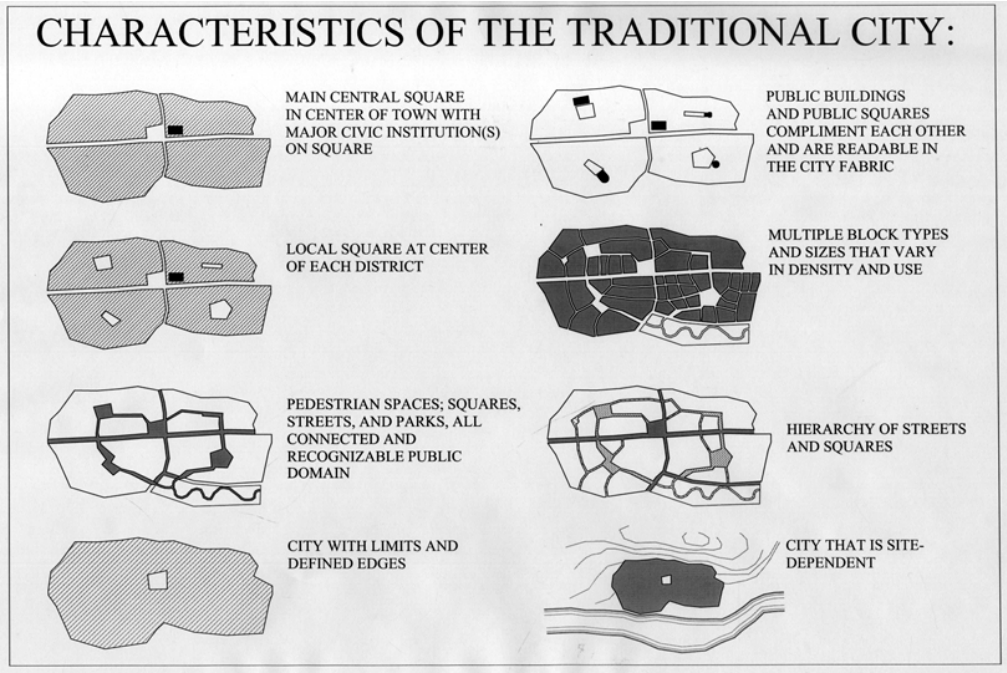
The City Through Time. After World War II, town planning changed. The principles and commonalities of the Traditional City Type were denied completely after millennia of time-tested success. This rift has resulted in the fallacious contemporary planning ideology.



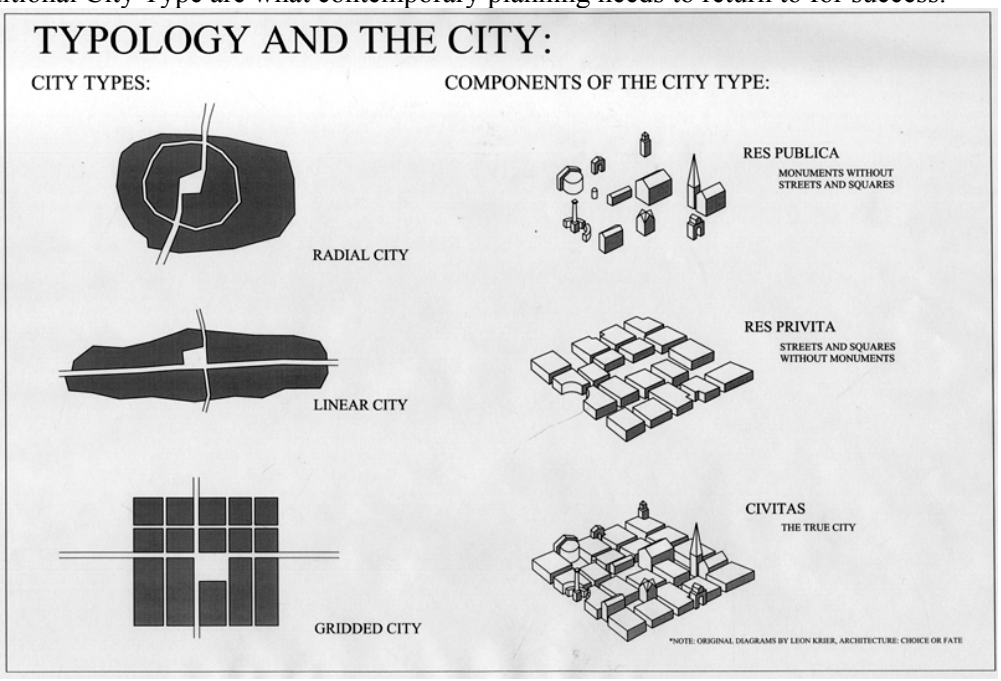
A.1.3.3
Urban Conditions. This figure illustrates the conditions at the turn of the 20th century, the over-reaction, and the ideology that offers a solution to both problems.



A.1.3.4
City Planning. A diagram of the differences between contemporary suburban planning and traditional urban planning. The diagrams illustrate the failures of contemporary planning and the successes of traditional planning. Contemporary planning makes little sense.

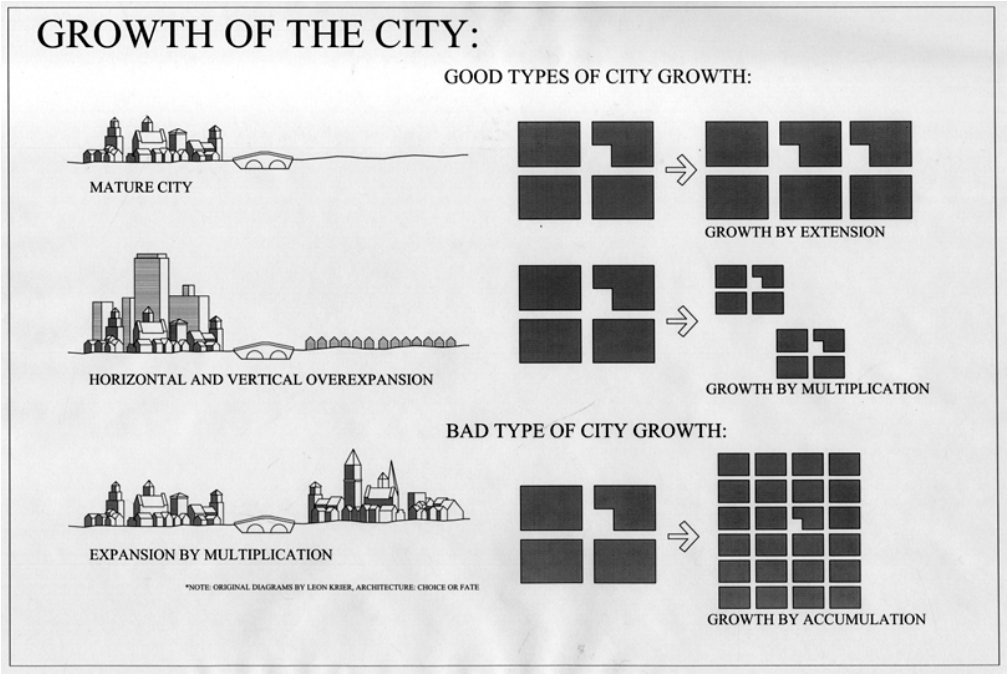


A.1.3.5
Characteristics of the Traditional City. The commonalities and characteristics of the Traditional City Type are what contemporary planning needs to return to for success.

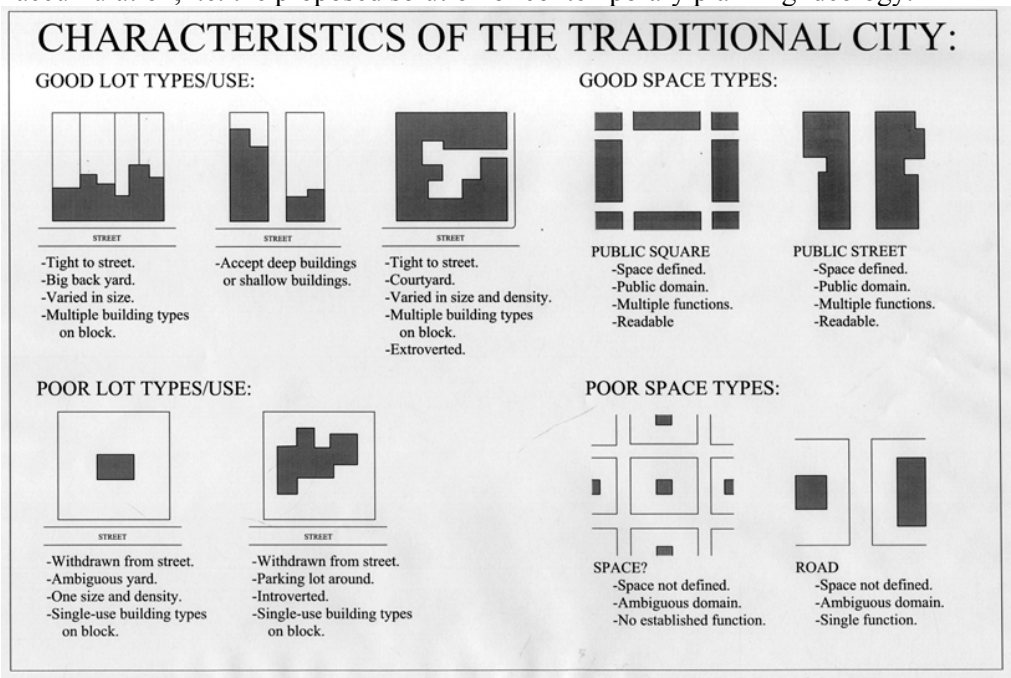


A.1.3.6
Typology and the City. This figure illustrates city types on the left and components of the Traditional City Type on the right.[26] Public and private buildings and spaces, blocks and monuments are necessary for the city to be a true city.

[26] Diagrams to the right in the figure traced from the original diagram by Leon Krier, *Architecture: Choice or Fate.*



A.1.3.7
Growth of the City. In the last half-century, the growth of cities has been destructive to both urban and natural landscapes. Mature cities have been overloaded with attached suburbs. Good city growth occurs through extension and multiplication. Bad city growth occurs by over-accumulation, i.e. the proposed solution of contemporary planning ideology.[27]



A.1.3.8
Characteristics of the Traditional City. This figure investigates good lot types and space types of the traditional city as compared to contemporary lot types and space types.

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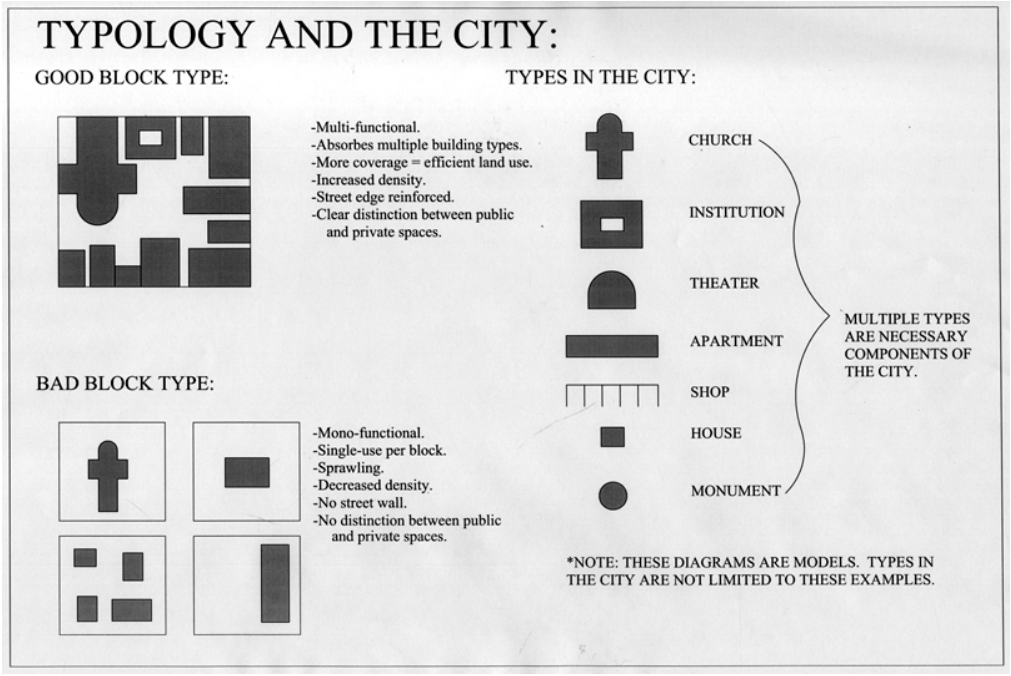
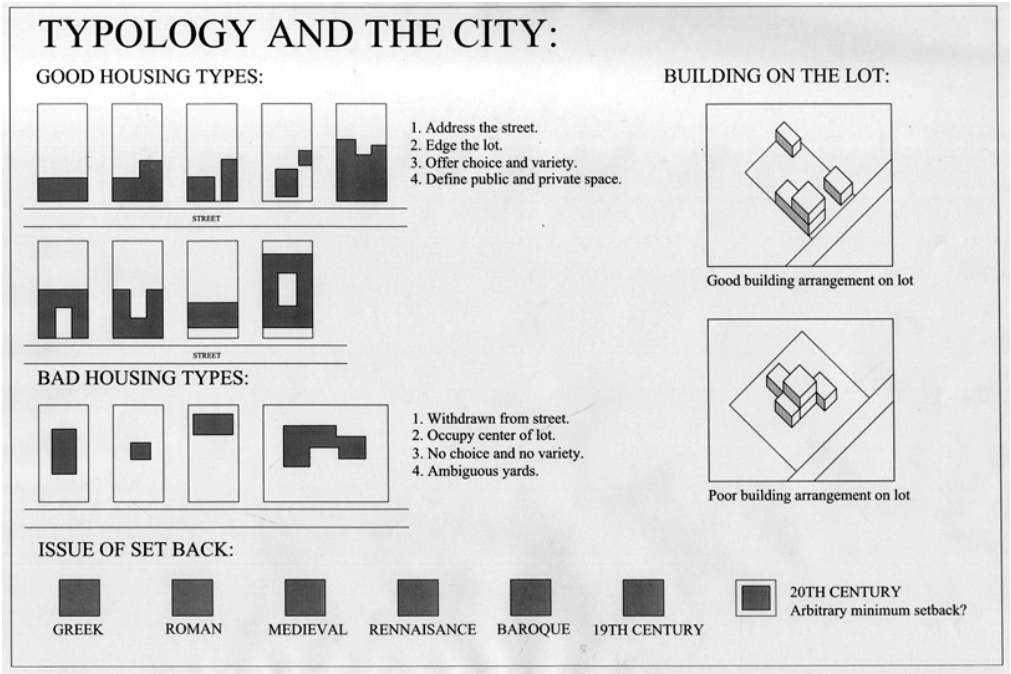
[27] The diagrams to the left in this figure traced from the original diagram by Leon Krier, *Architecture: Choice or Fate.*



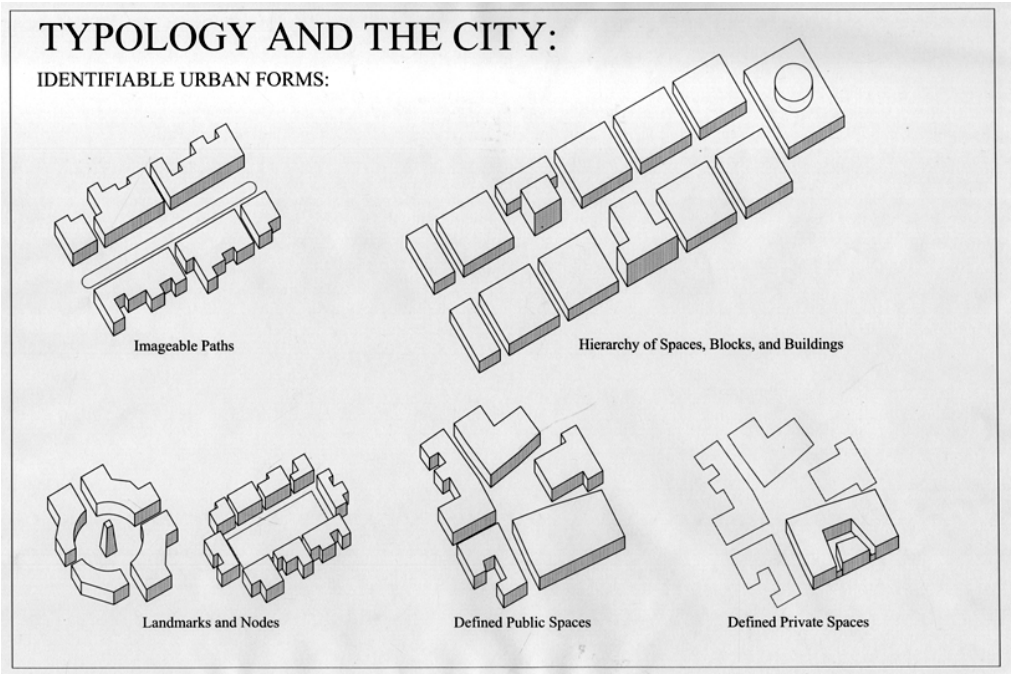
A.1.3.9

Typology and the City. A traditional block type in a city as compared to block types of contemporary planning is radically different. The city is a product of multiple building and urban types, both public and private in nature. Developments that consist of only one or two types are not sufficient.

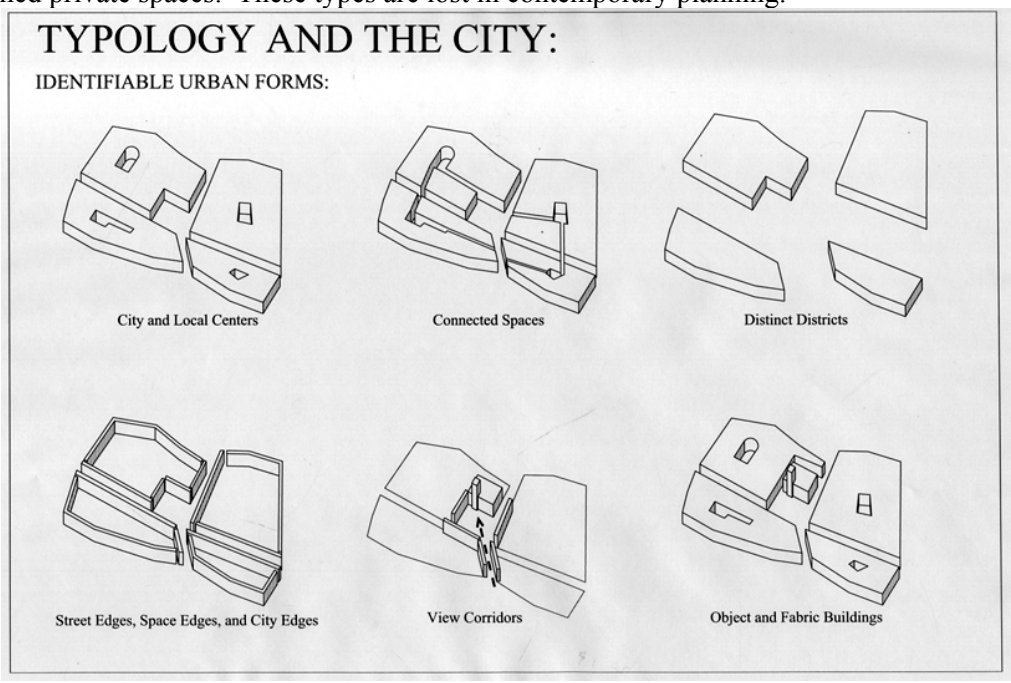


A.1.3.10

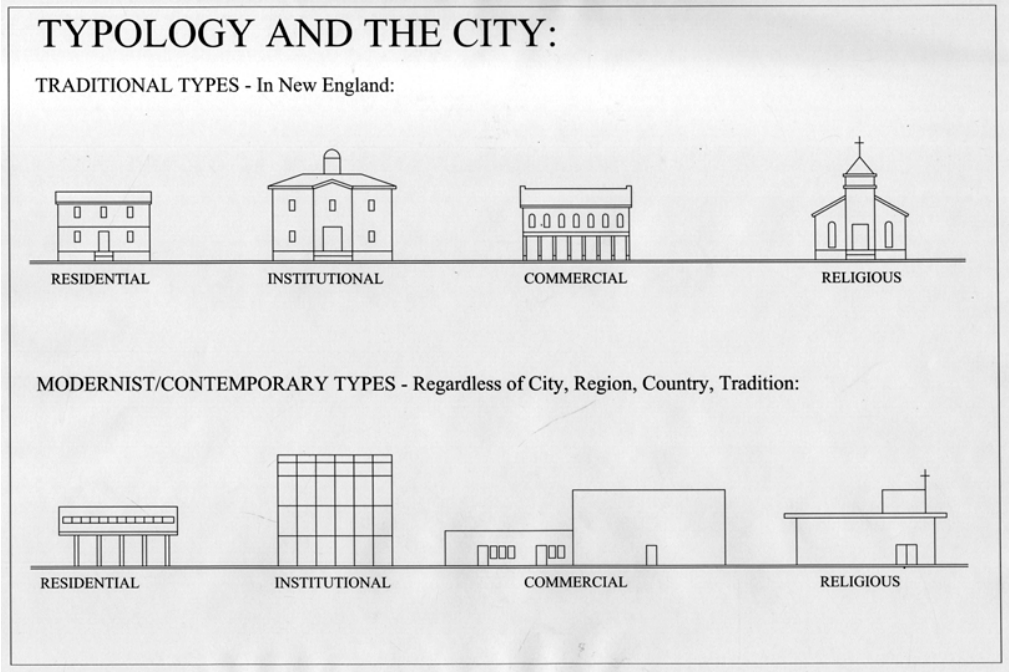
Typology and the City. Good urban housing types and lots as compared to bad housing types and lots. Buildings should edge the lot to define spaces and edges. Further, the issue of set-back in contemporary planning is arbitrary when compared to historical planning practice.



A.1.3.11
Typology and the City. The city is made of identifiable urban types such as: imageable paths; hierarchy of spaces, blocks, and buildings; landmarks and nodes; defined public spaces and defined private spaces. These types are lost in contemporary planning.



A.1.3.12
Typology and the City. The city must be an understandable environment. It should have city and local centers; clear connections of public spaces; distinct districts; street edges, space edges, and city edges; view corridors; object buildings and fabric buildings.



A.1.3.13

Typology and the City. Traditional New England building types are signature as opposed to placeless to those of contemporary planning. Typologies must be chosen from the context to ensure success. Traditional types maintain sense of place, culture, history, social conventions, and recognizable formal, functional, and technological characteristics. Contemporary planning fails on these levels

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