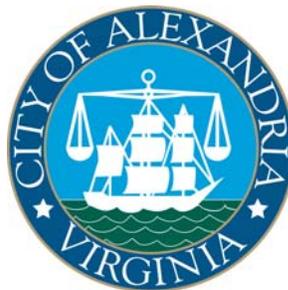




RESIDENTIAL INFILL DEVELOPMENT IN ALEXANDRIA



**Department of
Planning & Zoning**
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I. SUMMARY OF FINDINGS AND RECOMMENDATIONS

The issue of residential infill development, or mansionization – the building of houses that are out of scale and character with a neighborhood – is not unique to Alexandria. Established communities across the country and the region are experiencing similar development problems as builders and property owners use every last bit of land and build large houses to support 21st century living styles in 20th century neighborhoods. Market forces in the Washington, D. C. region have raised property values, and the trend in modern living is toward larger houses. High property values support larger houses on less land, especially for close in single-family neighborhoods, such as in Alexandria, Arlington, and Chevy Chase.

No simple solutions

This infill development report is the product of several months of analysis and work by a large group of planning staff. While it would be satisfying and helpful to present a single and simple conclusion, staff found that the issue in Alexandria is multifaceted and complex and defies a “one size fits all” solution. The infill issue involves the application of technical and detailed zoning regulations and, *at the same time*, matters of design and subjective taste. It is also contextual, so that what is perceived as appropriate construction in one neighborhood will not be deemed compatible with another. Cities evolve over time: staff found a newspaper article from the 1890s outraged at the onslaught of then new and large Victorian homes which today are held up as models for others to emulate. Thus, what staff is presenting is a “good news – bad news” message on infill in Alexandria:

Importance of site and building design and land preservation for residential neighborhoods

First, Alexandria’s older residential neighborhoods are a critical component of the City’s identity. When a new, out of scale home is built in an older neighborhood, long time residents are understandably concerned. On the other hand, Alexandria appears to have fewer controversial infill cases than some other local jurisdictions, such as Arlington. One emphatic conclusion in staff’s analysis is that the single most important factor in the success of new construction in a residential neighborhood is the *design* of the construction. Another is that more problematic to a neighborhood than an oversized house may be the painful loss of critical land, often green area with trees, to new construction. Therefore, the infill issue is important to the City but it is key to consider not only size of individual buildings but also the use of land in construction in residential areas.

Alexandria’s infill approach

Second, Alexandria’s zoning ordinance and development review process has long included more attention to the specific details of infill development than many other jurisdictions. City staff and local architects and builders have been trained and attuned to recognize the importance of detailed decisions in development. The City’s decision makers – the Planning Commission, Boards of Architectural Review, Board of Zoning Appeals and City Council – all do a very good job of deciding individual cases, with extensive attention to the nuances of development and its affect on the surrounding neighborhood. On the other hand, staff feels strongly that it would be unwise to require discretionary review for every new or expanded single-family house.

Alexandria's regulatory tools could be improved

As relatively successful as the City has been with infill development to date, it is clear that some of the City's regulatory tools are difficult to apply well and fairly, and could be improved. Many of the individual achievements in the City's recent history are a result of staff and board efforts to persuade builders to consider alternative approaches to building. Staff and City board members spend an enormous amount of time attempting to achieve reasonably designed construction that fits in well with an established neighborhood. Developers and landowners need to have a clear picture of what is allowed and what specific rules will permit. Staff, board members and applicants often struggle to find solutions to the details of development that could be better managed if the City made some refinements to its approach to infill development.

Staff recommendations

Specifically, staff is recommending that:

- four specific regulatory areas be studied for potential amendment to the zoning ordinance:
 - ▶ steep slope restrictions
 - ▶ subdivision regulations
 - ▶ lot coverage limitations
 - ▶ floor area ratio calculations
- the City create a residential conservation design pattern book with design guidelines for builders and architects on infill projects.

The goal of this paper is to frame the infill issue, provide background information, and begin discussion among the City's professional planning staff, residents, landowners, builders and developers, and its decision makers, including the Planning Commission, Board of Zoning Appeals, Boards of Architectural Review and City Council. Ultimately, the City may choose to adopt new or amended regulations to address modern building in its already developed neighborhoods. Nevertheless the discussion needs to balance the harm that infill building can create against the burden of over regulation on individual homeowners.

II. DEFINING THE INFILL ISSUE IN ALEXANDRIA

When a large new house is built on an already developed street, or when a long undeveloped corner is suddenly graded and staked for new houses, the result may be a traumatic change for an established neighborhood. In Alexandria, the infill issue is typically experienced in one of the following ways:

Tear downs. A vacant single-family lot in Alexandria may actually be more valuable than the same lot with an older house on it. Therefore, a savvy builder may purchase a lot, demolish the existing house and build a new house on the lot. Even if the new house complies with technical zoning and building requirements, it may be much larger than the other houses on the block. Many communities across the country are experiencing the tear down phenomenon. In Alexandria, new homes that comply with zoning regulations only need an administrative plot plan and building permit for approval.

Building additions. Alexandria has not experienced as many “tear downs” as other close-in D. C. suburbs. More typical here is financial investment in an existing home by constructing a building addition. Where houses are smaller than the maximum allowed by zoning, only a building permit is required to expand the house. Whether it is a second floor over the entire house, a large addition in the rear, or an expanded attic and dormer, the result can be a radical change for the neighborhood.



The trend in modern living is toward larger houses. The National Association of Home Builders has noted that the average size of a house has grown from 983 square feet in 1950 to more than 2,200 square feet in 2000. A 1998 American Housing Survey noted that the median size of a detached home in the Washington area was 2,315 square feet. No matter how you count it, there is a trend.

Residential building additions often add significant mass to what had been a small house; some double the size of the original house. Some of these projects are developed at a scale consistent with the original development, incorporating design elements sensitive to the established neighborhood, and others have an opposite effect, creating a new style all their own within the neighborhood. Citizens have expressed concern over a variety of specific building elements including: mass and scale overshadowing smaller neighbors; interruption of established setbacks; inconsistent design and architectural elements (such as front-loaded garages); excessive paved surfaces; oversized accessory structures; and removal of mature trees and open space.

New subdivisions. Throughout Alexandria, there are parcels of land that were never developed, either because they are steeply sloped or otherwise difficult to develop, or because they have been enjoyed as excess land associated with an existing house. With the escalating value of land, builders are now willing to build on difficult properties, and landowners are sometimes willing to sell extra land. Another example of re-dividing land occurs when an existing house is built on a double lot; the house may need to be removed to allow construction on the two lots that zoning permits on the land. From the neighborhood perspective, these leftover lands often define a neighborhood; typically offering green relief or treed areas, and their loss can create a dramatically different neighborhood environment. When the extra land is the equivalent of a zoning lot, then only a plot plan and building permit is required to develop the site. If there is sufficient land for two or more lots, then a subdivision application is required.

Consolidation of lots. Although Alexandria has yet to experience this phenomenon on a large scale, other communities have seen real estate developers purchase a series of lots, a whole block, or even a series of blocks, and propose to redevelop the area, sometimes re-subdividing the land into more modern building lots. The result can lead to significant changes in the City as a whole and can displace households. Staff notes that, given the value of land in Alexandria, and its close in location, at some point the rebuilding of familiar but modest neighborhoods may be attractive to builders.

III. HOW ALEXANDRIA REGULATES INFILL DEVELOPMENT

The Alexandria Zoning Ordinance is the principal tool for determining how much land is required for a house and how large houses can be in specific locations in the City. The ordinance contains a series of provisions addressing the basic form of residential development as well as the details of individual house sites in the City.

Single-family zoning

The great preponderance of land in the City is zoned for single-family development. The single-family zones, R-20, R-12, R-8, R-5, and R-2-5, are similar in content, but the rules vary as to lot size, height, setbacks and house size. These regulations define the legal building area on a property. In order to build a single family house in one of these zones, or to construct a building addition, only a building permit, plus an administrative plot plan in some cases, is required if the zoning regulations are met. For the vast majority of the City, there is no prohibition against demolishing a house and no discretionary review to assure that the design of the house is compatible with its neighbors or that consistency with neighborhood character is achieved.

The one area where the City exercises its authority to regulate design and character is within the Old and Historic Alexandria or Parker Gray Historic Districts; the residential land in the districts is zoned RB and RM. In the historic districts, every new house and every visible building addition is reviewed for its architectural consistency with the original structure as well as with the character of the district as a whole. In addition, demolition is not permitted without Board of Architectural Review approval. Although the City also has several National Register historic

districts, such as Rosemont, Town of Potomac, and Park Fairfax, design compatibility is not locally regulated in those areas.

For any land in the City, should a homeowner wish to build a house or an addition larger than the zoning allows, then a variance may be granted by the Board of Zoning Appeals, which is charged with considering, whether the proposed variance creates harm for an adjacent property owner or the neighborhood. In fact, the BZA hears approximately 75 cases each year and nearly 90% of those cases involve single-family house additions.

Subdivision review and approval by the Planning Commission is required to divide land into building lots or to change lot lines (although not to consolidate lots). As discussed further below, lots must be in character with nearby lots, but the architecture and eventual improvements to those lots is beyond the scope of Commission review.

Beyond the basics of residential zoning, it is also important to recognize those aspects of Alexandria's approach to single family building that are unique. The following circumstances and regulations are not typically found in other jurisdictions and affect the infill issue in both positive and negative ways.

Overzoning

Many of the City's established single family neighborhoods, including Old Town, Parker Gray, Rosemont, Del Ray and parts of North Ridge, were built prior to 1952 when the modern forerunner of the existing zoning ordinance was adopted. Many of the houses and blocks in those neighborhoods were built at the same time, often by a single builder, and thus share a common design and character. Moreover, many of these single family areas are actually "underbuilt," or "overzoned." In other words, the zoning regulations allow a larger or taller house, or one on less land, than has long existed in the neighborhood. As a consequence, a new house proposed for an existing lot on an established block may be legally built to a size not in harmony with the original houses on the block.

Infill Zoning Regulations

Alexandria, with its older neighborhoods, has long recognized the impact that infill development can create and its zoning ordinance incorporates discretionary review of certain special circumstances in residential building in order to protect established neighborhoods. The following are examples of regulations in the zoning ordinance that are not typical in zoning ordinances elsewhere, that attempt to modulate the impacts of residential building on a neighborhood, and that are actually longstanding Alexandria "infill" regulations.

Developed front setback. Recognizing the problem of neighborhoods that preexisted the zoning requirements, Section 7-1000 of the zoning ordinance generally requires that, where a block has been built to a different front setback than the applicable zone has set, a new house or front addition will have to respect the developed setback line. For example, a new house built in a zone that requires a 25 foot setback may be allowed to locate the house only 15 feet from the front lot line if that is the developed setback on the block.

Substandard Lots. Through the SUP process, certain lots that are smaller in size or width than the zoning allows may be developable if a neighborhood study demonstrates that the lot is similar in size to the way other lots on the block have historically been developed. SUP review is required to ensure that the character and scale of the proposed new house will not negatively affect adjacent property or the established neighborhood.



The Commission and Council have seen a number of these cases in recent years. At 29 East Walnut, the approved new house design incorporated a large front porch, massing, scale, and roof pitch, tandem parking, and tree preservation, all consistent with its Rosemont neighbors. Another recent example is located at 500 East Howell Avenue. While it is a large home, its design mimics that of an existing home listed on the National Register of Historic Places on the same street. Design elements such as the front porch

are consistent with the historic fabric of the neighborhood. Large trees were able to be saved as part of the project, and the curbcut was reduced to a single cut allowing for tandem parking. The lot size was consistent with other developed corner lots in the immediate area. These considerations are specific to the special use permit process.

Character language in subdivision regulations. It is a significant feature of the City's subdivision regulations that the Commission is required to review new lots for their consistency with the adjacent properties, and the remainder of the subdivision. This issue is discussed in more detail in Section VII below but is a striking example of an atypical regulation designed specifically to address neighborhood infill issues.

Special exception. In addition to the variance procedures at the Board of Zoning Appeals, which requires a homeowner to show an economic hardship supporting relief, the BZA has adopted an additional technique, the special exception, to address typical cases that come before it and that should require design and neighborhood compatibility review for approval. Under the special exception review, the BZA considers whether a request to alter the zoning, typically for an addition to a single family house, will alter the essential character of the neighborhood, harm adjacent properties, and be compatible with other development in the surrounding neighborhood. Currently applicable only to exceptions to the rules for corner lot fences and yard and setback requirements, the BZA is also considering allowing special exceptions for front yard porches and similar projections.

Floor area ratio regulations. Although the FAR rule is the subject of some debate, it is notable that Alexandria has long included an FAR limitation to govern the overall size of individual houses in the single-family zones. The details of the FAR computation are explained below in Section VII. Many jurisdictions have not included that type of zoning rule in their ordinances for single-family construction. Interestingly, some jurisdictions, such as Winnetka, Illinois, have recently adopted FAR rules as a way to address infill issues and mansionization.

Unusual Circumstances/Exceptional Design in RA and RB Zones. The minimum lot size for residential dwellings in the RA and RB zones is 1,980 square feet, except that the lot size may be reduced with SUP approval to as small as 1,600 square feet – in the case of *unusual circumstances or exceptional design.* This



This flexible zoning regulation, with design review, recognizes that, while lot size is a critical component of neighborhood compatibility, design is also important. An example of development under this regulation is a single-family house built at 1000 Princess Street, at the southwest corner of Princess and N. Patrick Streets, which was also subject to another layer of design review at the Parker-Gray Board of Architectural Review. The new house is large, but includes several elements to blend in with the mass, scale and character of the neighborhood, including a consistent setback and architectural style, as other buildings on the Patrick Street frontage.

Curb cuts. Alexandria recognizes the damage curb cuts can create in older neighborhoods through a complex set of regulations balancing the need for parking against the negative impacts on neighborhood character and the pedestrian experience. Curb cuts are prohibited in Old Town, require BAR approval in Parker-Gray, and, depending on the circumstances, may require additional approvals in the historic areas of Rosemont and the Town of Potomac. At a minimum, under the City Code, all curb cuts are reviewed for their consistency with neighborhood character at the administrative level.

Parking reductions. In order to reduce paving, accommodate new construction and balance the effect of construction on existing neighborhood conditions, an application for a parking reduction SUP may accompany an infill residential building plan. The design of parking on a residential lot can radically affect the design and compatibility of new residential construction and a request to reduce the number of parking spaces, or more typically to allow tandem or reduced size spaces, can greatly improve the design of a new house site, and brings



the development before the Planning Commission and Council for review. The home at 518 East Howell Avenue is a good example because, as originally proposed, garage parking created a “snout” house, with jutting garage; working with staff and the Commission the landowner accommodated tandem parking for two spaces on the lot, and achieved a neighborhood compatible house site design.

Lots without frontage. In order to ensure that new residential development follows the traditional model of blocks, grid streets, and generally rectangular lots oriented toward a street, the zoning ordinance requires SUP approval to create a lot that does not front on a public street. The new home approved at the rear of 219 North West Street is an example of a new lot without street frontage.

Paving restricted to 50% of yard. Section 7-1005 of the zoning ordinance limits the area that may be used for parking, whether paved or not paved, on a residential lot, to a maximum of 50% of a *required* yard, allowing excess land on a lot to be paved. Fairfax County recently adopted a similar rule in order to promote green areas and reduce the number of cars on residential lots.

Height limit depends on roof type and orientation. In certain zones in the City, such as the RM zone, increased height is allowed if the ridge line of the roof runs parallel to the street and if the slope of the roof is compatible with neighboring buildings.

Private drives not included in lot area. Several years ago, the City amended the zoning ordinance by prohibiting the land used for alleys or drives to count as part of residential lot area. Although the purpose of the new rule was to ensure sufficient land for open space on residential lots, staff has found that the rule has an unanticipated negative effect on infill development. Specifically, on small infill parcels, builders have no incentive to design townhouses with rear parking and garages, because it requires less land area, paving, and construction costs to put the garages on the front of the buildings, where they detract from the street, the architecture and the ability of the new project to be compatible with its surroundings. While builders may be willing to change their design at staff’s urging, they will not agree to lose units, which the current rule would require, to do it.

IV. INFILL CASE EXAMPLES

In order to assess the problem of infill development in Alexandria, planning staff performed an in-depth study of several dozen cases from the last ten years. Cases studied include those that were significantly troublesome at the BZA, BAR and Planning Commission, examples which generated citizen complaints, and those which staff on its own found to be technically problematic. The review included a large number of individual houses, subdivision cases, and cases where citizens were upset at intruding additions, the removal of trees, and setback and design issues. Staff inspected neighborhoods, and reviewed building plans, applications for approval, and citizen concerns; it recalculated dimensions and FARs and assessed board and administrative decisions.

Although staff set out to find common problems with the zoning rules or system that lead to larger houses and neighborhood problems, it discovered that each case includes individualized circumstances and so many variables that there were few common problems. The following case examples are instructive:

2412 Crest Street

The current construction on Crest Street is a typical infill case and a good example of a large house renovation project in an underbuilt neighborhood. The new house complies with zoning in all respects and did not require any special approval, only a building permit.



The Crest Street neighborhood, close to Braddock Road and adjacent to Blessed Sacrament church, is zoned R-8. Each house is required to have an 8,000 square foot lot, a maximum height of 40 feet and a maximum FAR of .35. The lot at 2412 Crest contains 10,000 square feet, allowing a maximum of 3550 square feet of floor area. The builder is maximizing the floor area in the reconstructed home, which includes 3520 square feet. The height and yards comply with zoning rules.

The new house is much larger than the remaining homes on this block, which are fairly regular in size and style. Although the lot is 10,000 square feet and the zone only requires 8,000 square feet, four of the seven lots on that blockface are 10,000 square feet or larger.

The project involves a large addition which essentially adds a second floor and front porch to what had been a one story, rambler. The preexisting style had been consistent with its neighbors; the new house design resembles a different, farmhouse era. The project has raised great concern

with some neighborhood homeowners, although others, including the immediately adjacent homeowners support the project.

Staff believes that, while well designed, the new construction is completely out of harmony with the homes in the neighborhood, although in another Alexandria context, perhaps only a few blocks away, the size of the house would be in character with the neighborhood.

2714 Hickory Street

This house, remodeled by a second floor addition in 2000 is included because it is an example of modern architecture on a street that is more traditional in architectural style. Again, the house meets all zoning rules and the reconstruction work required only a building permit under the zoning ordinance. Nevertheless, it is unusual and arguably out of harmony with its neighbors. Outside of the regulated historic districts, however, Alexandria does not regulate the design and architectural style of houses.



19 Sunset Drive and 217 East Del Ray Avenue

At 19 Sunset Drive, a single family home was demolished and redeveloped with a three-story duplex. The property was already served by two curb-cuts, which accommodated the four required parking spaces for the two dwellings allowed in the R-2-5 zone. While the development complies with zoning, it is arguably out of scale with adjacent dwellings.



Front



Back

Especially as seen from the rear, from Commonwealth Avenue, the building is much larger than its neighbors. The large rear addition, so much larger than the rear of its neighbors' homes, changes the rear building line of homes on the block radically.

A similar instance occurred at 217 East Del Ray Avenue, which was reconstructed with a large addition a few years ago.



In both cases, the new homes complied with zoning. The Del Ray house is on an extra wide lot. The Sunset Drive house is a two family duplex structure. We cite them together however to show the difference that design can achieve with large houses in established neighborhoods. In the Del Ray example, the overall design and especially the front of the house, with its porch and use of materials, are very good example of classic Del Ray architecture. Thus, although a very long house, and deeper than its neighbors, the Del Ray house is compatible with the neighborhood in terms of appearance.

On the other hand, in the case of the Sunset Drive house, its architecture, with its blank walls and front facade garage doors is unappealing. Furthermore, it lacks favorable design elements, such as front porches found in the older dwellings on the street. The Sunset Drive house is also an example of an unsuccessful effort by staff to negotiate design solutions with the developer of the lot. Originally an application for subdivision which staff could not support because of the front-loaded garages, the applicant was not amenable to staff's alternative parking designs, because they required a parking reduction SUP, even though staff would have supported the SUP.

These and other cases confirm staff's understanding of the development process and the City's infill regulations: Whatever regulations are in place, design is a key ingredient in determining what creates a successful infill project. Although required design review is one solution, voluntary design achievements are often equally successful, as with the well designed home at 217 East Del Ray Avenue. Even in the case of 2412 Crest Street, while larger than its modest neighbors, the new house is well designed; under the city regulations, it could easily have been built as a large brick box; the builder chose to create an appealing house design with porches, dormers and gables.

V. WHAT REGULATIONS HAVE OTHER JURISDICTIONS ADOPTED THAT AFFECT INFILL PROJECTS

Regulations on infill development throughout the country range from strict regulation with design criteria to encouragement and education strategies through guidelines and other reference materials. Given the complexity of the issue of infill, jurisdictions across the country have incorporated various regulations and guidelines to achieve compatibility with established neighborhoods.

Regional Solutions: Zoning Regulations

Arlington County

Over the past few years, Arlington County has studied the infill problem, especially as it relates to building height, setbacks and pipe-stem lots. In November 2005, the County adopted changes to the zoning ordinance to decrease the amount that a residential lot that can be covered by houses, accessory buildings and driveways, known as “lot coverage.” A lot coverage rule specifies how much of a lot can be covered by the footprint of structures and hard surfaces such as driveways. It is the ratio of the occupied area (buildings and driveways) to the total area of a lot. For example, if the occupied area is 2,400 square feet and the total lot area is 6,000 sq. ft., coverage would then be equal to 40%.

Arlington studied the issue for two years to determine reasonable coverage limits that would protect neighborhoods from very large houses in the future while still allowing reasonably sized houses. Historically, zoning in Arlington allowed homeowners to cover 56% of a lot's total area with a main building, garage and driveway. The new regulations apply to the County's single-family residential districts, and provide a detailed sliding scale approach to the amount of lot coverage based on the size of the lot. The larger the minimum lot size, the smaller the percentage of lot coverage. Generally speaking, the new provisions allow the main house to occupy between 16% and 34% of the lot area, depending on the size of the lot, and provide incentives for front porches and detached garages in the rear yard. The changes do not affect existing houses; however, large additions (50% or more) or redevelopment that constitutes “reconstruction” triggers the new requirements.

Montgomery County

Like Arlington, Montgomery County, Maryland, has experienced significant infill disruption in its close-in, older residential areas. In assessing their infill problem and comparing it to their zoning, and after studying the issue for more than a year, Montgomery County determined that the most problematic aspect of new infill development was the height of homes. To address the height issue, the County lowered the height limits in some zoning districts. It also made a series of technical changes to the method by which height is measured, including the point to which and from which height is measured.

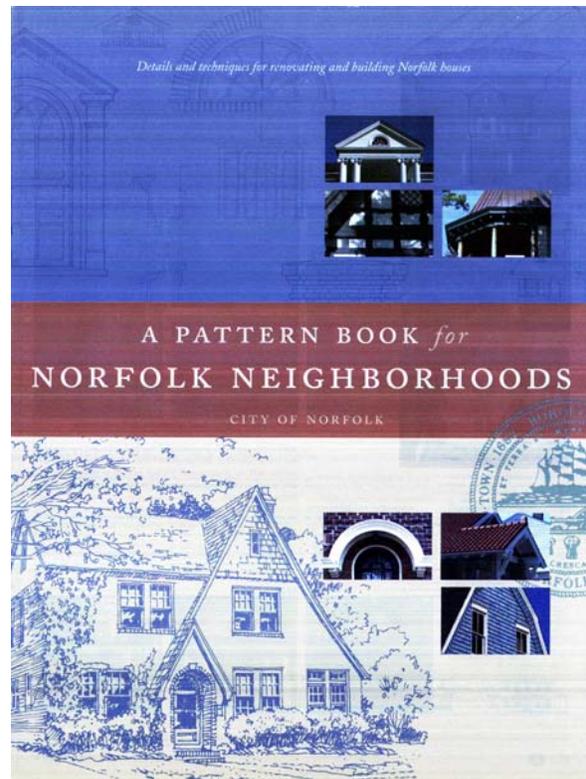
Fairfax County

Because of the scope and size of the Fairfax County residential community, with its vast acreage and large number of residential zones, Fairfax planning staff has been studying the infill issue for several years. Their work continues as the County looks at a series of potential changes to its zoning, particularly with regard to lot coverage and methods of measuring height. In addition, the County is also looking at the potential for a neighborhood conservation overlay district and form based coding. Final proposals are not anticipated for another year or so.

Norfolk: Education, Outreach, and Assistance

Specific regulations may not be the answer to every infill issue. Strategies of encouragement and education may be considered either on their own or in conjunction with regulations. Just last year, the City of Norfolk established the Neighborhood Design and Resource Center (NDRC), offered through the Department of Planning and Community Development. The office provides a setting and a program to address neighborhood and housing design issues for the City. Its services include: professional expertise in strategic neighborhood planning, revitalization and design, preliminary architecture and design services for residents, renovation advisory services, education and outreach to raise public awareness about good design, access to financial assistance, infill development consultation, and more. The office is staffed by planners, architects, and housing specialists, and reviews all building permits related to infill development, providing comments and recommendations. Although the design comments from the office are not required by regulation, many builders incorporate some or all recommendations into final designs.

Norfolk has a number of neighborhoods developed between 1850 and 1950 that are known for their significant history and architecture. As a reference for area builders and homeowners, the City of Norfolk prepared a pattern book on architecture, character and design in its older residential neighborhoods (see attached book). The book is not a regulatory tool, although some of the areas within the neighborhoods covered in the book are in designated historic districts with a formal review process. The book includes detailed guidelines on neighborhood patterns, architectural patterns, and landscape patterns. The more detailed contents of each section include the following:



Neighborhood Patterns: This section includes information on lot sizes and setbacks, accessory structures, streetscape, and landscape character.

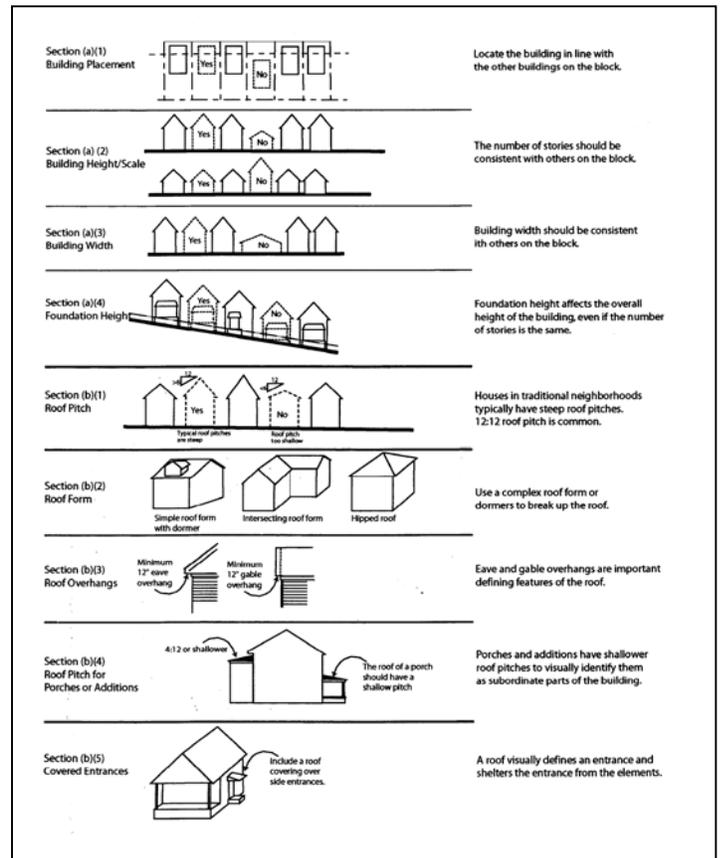
Architectural Patterns: The architectural patterns section discusses style, massing and composition, floor-to-floor heights, door and window composition, porches, roof pitches, cladding, and other elements.

Landscape Patterns: The landscape section includes information on foundation planting, sidewalk edging, hedges, sidewalk paving and driveway paving surfaces, garden features, and other elements.

This comprehensive outreach and education strategy provides resources to the community resulting in a greater consciousness of design issues. The hope is that, with greater community understanding, voluntary implementation will lead to creative design strategies by the building industry.

Roanoke:
Neighborhood Conservation District

Another strategy for design control in older neighborhoods is establishing a Neighborhood Conservation District. A conservation district ordinance accomplishes its purpose by regulating new construction, major alterations or additions to existing buildings, and demolition. Many ordinances contain design review guidelines applicable to additions and new construction. Some only regulate new construction. Roanoke, Virginia, established a conservation district, with zoning rules affecting new and expanded dwellings. Zoning regulations include specifications on building location and massing (including building placement, height/scale, width, and foundation height), roof pitch, window and door arrangements, siding and trim, porches, and standards for accessory structures and parking. The ordinance provides visual representations of the regulations, as shown here. The Roanoke district is essentially an historic district, but not all conservation districts incorporate the same level of detail, as shown by the wide variety of approaches in other jurisdictions around the country.



In fact, conservation districts differ from historic districts in that they provide more flexibility. As explained by Marya Morris in *Innovative Tools for Historic Preservation*, American Planning Association,

Conservation districts are areas, usually residential neighborhoods, with certain identifiable attributes, embodied in architecture, urban design, and history that are subject to special zoning or land-use regulations. The purpose for creating these districts vary somewhat from city to city, but, in general the districts are a land-use or zoning tool used to preserve neighborhood character, retain affordable housing, and protect an area from inappropriate development by regulating new construction. They also can serve as a catalyst for rehabilitation of existing buildings. Conservation districts can be used to protect neighborhoods or districts that have significant architectural and historic merit and a distinct character but that do not qualify for historic district status or have lost some of their integrity through incompatible additions and new development.

For communities in Virginia, a conservation district would be created under the state historic district authority (and in Alexandria, under its charter authority for historic districts), but the rules and procedures within the district could be much more flexible than those Alexandria employs within its historic districts now.

Other Strategies

Outside of Virginia, there are numerous strategies to address design issues of infill development. *Mansionization and Its Discontents: Planners and the Challenge of Regulating Monster Homes*, is a thorough article prepared by the American Planners Association, which examines strategies and results from three communities: Winnetka, Illinois and Sunnyvale and Menlo Park, California (see attached article). A summary of the regulation strategies attempted in these communities, some of which have been approved, then revised, or tried and rescinded, include:

FAR review trigger:	Activates special review when FAR exceeds defined limit.
FAR exclusions/bonus features:	Establishes incentives/added floor area for removing existing structures, subordinating garage space, or specifically placing accessory elements.
Impervious surface coverage:	Limits impervious surface or paved surfaces to a specific % of lot.
Second-story ratio:	Limits floor area on second story to a specific size or % of first floor area to minimize appearance of bulk/build out in single-story neighborhoods.
Daylight plane:	Reduces building mass and projections; ensures light for adjoining property.

Second-story setback:	Reduces appearance of bulk; provides articulation; avoids “blank wall” effect.
Other setbacks:	Limits building projections in front, side, or rear yard to address privacy or scale issues related to build out.
Special height limits:	Reduces excessive floor-to-ceiling height or height resulting from basement projections.
Design guidelines:	Encourages compatibility of new construction in existing neighborhoods.
Design review:	Ensures greater compatibility or consistency with guidelines when designated thresholds are exceeded.

VI. FINDINGS AND RECOMMENDATIONS

While staff is loathe to understate the issue, Alexandria may not be experiencing as much impact from infill as other jurisdictions, such as Arlington and Chevy Chase, which may have seen even more dramatic real estate value increases than Alexandria has. Nevertheless, when there is a neighborhood problem with an oversized, out of character, structure, it is very traumatic. Staff also notes that there has been a series of recent cases that were troublesome for decision makers, such as the subdivision cases on North Latham Street and Sunset Drive, and the substandard lot case on Laverne Avenue.

Decision Makers

Staff found that the City's decision makers do an excellent job in deciding individual cases based on the longstanding zoning rules crafted to address nuances of building in developed neighborhoods. Planning staff, board and commission members are well trained in the importance of protecting neighborhood character by paying attention to design issues, as well as mass, scale, height and architecture. While citizens may differ as to the approach to individual cases, and neighborhoods may be upset over a particularly large house addition, from a distance of several years, and looking at hundreds of cases, the work done by the BZA, the BAR and the Planning Commission on single family house cases is part of, on balance, a success story. If there is an infill problem, it occurs typically in those cases that only require a plot plan and building permit, not in those that receive discretionary review by the Commission, BAR or BZA.

Staff approach

In individual cases, including those that require only a building permit, planning staff takes an active role in attempting to create solutions for builders as to design, mass, parking, and other issues, and to persuade developers to use those solutions to the benefit of the neighborhood – and often to the financial benefit of the builder. Many individual builders are sensitized to the importance of design and neighborhood issues and assist homeowners to achieve new houses or additions with design elements that help blend in with established neighborhoods.

Design solutions

As outlined above, staff found that the design of a structure, a designer/builder's sensitivity to the neighborhood context is the single most important ingredient in ensuring that new construction is compatible with the character of an existing neighborhood. Furthermore, staff notes that the regulatory process, while helpful, is not the only way to achieve better designs. While one solution to infill would be to require design review of every single family home or addition, far preferable, from both a policy and practical standpoint would be to have builders voluntarily find design solutions that blend in with the established built environment. Staff finds the Roanoke example of neighborhood pattern books, with design guidelines, to be particularly helpful, and is providing Planning Commission members with copies to review.

Problem areas

Where staff found infill problems, they occurred because of the lack of transition with neighboring houses, oversized lots, underbuilt (overzoned) neighborhoods, narrow streets, and deductions allowed by the FAR rule. Staff also noted two particular problem areas in the City. The Fillmore area on the City's western border is severely underbuilt with R-20 zoning and very modest, ranch style houses. The R-20 zoning was historically applied to preserve single-family development, but new homes consistent with zoning exaggerate the overzoning problem. In addition, because of its popularity and modest homes, the eastern part of Del Ray has seen a number of large new and newly constructed homes built. The neighborhood is concerned and the Civic Association is giving special attention to the issue.

Future work

Finally, staff's analysis of the infill problem has uncovered a few troublesome situations that occur and regulations that do not work as well as intended. In addition, staff notes that planning staff, decision makers, neighborhood citizens and developers spend a significant amount of time debating issues related to details of residential development. Staff also is concerned about the future potential for more significant disruption in the City's residential neighborhoods. Therefore, staff has identified four areas for further, in depth study, and potential regulatory solutions. In addition staff believes the City should consider some form of Norfolk's non-regulatory design initiative for Alexandria.

Staff recommendations

Specifically, staff is recommending that:

- four specific regulatory areas be studied for potential amendment to the zoning ordinance:
 - ▶ steep slope restrictions
 - ▶ subdivision regulations
 - ▶ lot coverage limitations
 - ▶ floor area ratio calculations
- the City create a residential conservation design pattern book with design guidelines for builders and architects on infill projects.

These issues are discussed in greater depth in Section VII.

VII. TOPICS SUGGESTED FOR FURTHER STUDY

The following pages discuss specific aspects of existing or potential regulations in Alexandria, each of which could form the basis of additional study and new or amended regulation.

STEEP SLOPES

Alexandria does not address development on steep slopes in the zoning ordinance, and it has been suggested that it should. As land becomes more and more valuable, those properties previously considered undesirable or difficult to develop have come to the attention of builders. The City has seen several developments in the last few years on long undeveloped land, such as at Pickett's Ridge, Lloyds Lane, and Beauregard and Armistead. The City's ability to deal with relevant development issues on those sites is restricted without an ordinance that addresses the issue.

What is a steep slopes ordinance?

Very simply, a steep slopes ordinance defines the maximum degree of slope of land that is permitted to be developed. In the most extreme circumstances, development can be prohibited where the grade of land is too great, because the result is harmful to soil stability, requires the removal of trees, the erection of large retaining walls, and otherwise brings harmful results to the community. While still not prohibiting construction, a steep slope ordinance may require additional review, or require development alterations at certain levels of slope.

What do other jurisdictions do?

Several jurisdictions nationwide and regionally include a steep slope regulation in their development approach. In many jurisdictions, including Loudoun, Prince William, Montgomery and Prince Georges Counties, development is not permitted on slopes with over a 25% grade. In addition, jurisdictions frequently reviewed development on land with at least a 15% grade, or require additional performance standards for development.

In addition to these steep slope ordinances, Arlington County elected to use its Chesapeake Bay regulations to address steep slopes that occur adjacent to RPA areas or required RPA buffer areas. For example, if a slope greater than 25% exists adjacent to a required 100-foot buffer, the buffer is expanded to include that slope. The controlled slopes are reduced to 15% along the Potomac Palisades. Development is not necessarily prohibited on these slopes, but typically a special exception is required in addition to a Water Quality Impact Assessment. Through this process, staff reviews impacts to the RPA, especially vegetation and runoff impacts, and requires mitigation and RPA enhancement measures.

Alexandria experience

While Alexandria does not have the mountains that parts of Loudoun and Montgomery County do, nor the Potomac Palisades that Arlington has, it does, especially with regard to the remaining undeveloped land in the city, have sites that are hilly, where development can only be achieved with special technical and engineering attention to stabilizing the soil to hold construction. Building large retaining walls, and running piped water and sewer for longer distances to accommodate such sites, negatively affects the underlying ground and tree root system, causes decline of remaining natural flora, and, with appropriate techniques, may be able to be avoided.

A few recent examples are instructive:

Pickett's Ridge/Buzzards Gap. This single-family house development began with a builder's application to build seven to eight homes on severely sloped land in the west part of the City. 80-90% of the site included 15 to 20% grades. All of it included heavily treed land. The initial site plan proposal removed all of the trees and included extensive use of large retaining walls. As a result of working with staff, the final proposal was scaled down to a total of four single-family homes, and required SUP approval for lots without street frontage, which staff supported. Most of the trees were saved and retaining walls minimized. The change in product and site design was driven by both environmental concerns but also by market. The houses are experiencing successful sales now.

Armistead/Beauregard. This development site plan case was problematic for staff, the Commission and City Council. The proposal included 42 townhouses on a steeply sloped property, but required the removal and grading of hilltops and removal of trees to make it work. Ultimately approved by Council on appeal, neither Staff nor the Commission could support it without the removal of some units to reduce the amount of grading and save some of the treed area. Ideally, a sloped site such as this one should be developed with fewer footprints than townhouses require; a single large condominium building would have suited the site environment better than a townhouse project.

Potential zoning changes

It would not be difficult to amend the zoning ordinance to include a provision, which requires additional review of development on steep slopes. For example, development on slopes greater than 15% could be required to obtain a special use permit, thus allowing greater review and discretion in what might otherwise be a site plan application.

In addition, the steep slope amendment could provide that where possible, development on steep slopes should be avoided, or should be modified to group development so as to avoid the steep slopes. While it would be desirable to help find solutions for a developer to achieve the size, type and scope of development planned, in the proper case the City may want to be able to require a change in product type or potentially a reduction of the number of units proposed in order to respect the natural environment affected by what would otherwise require a change in the natural grade of land.

Who would be affected by a steep slope ordinance?

Using GIS mapping technology, staff can estimate the number of platted parcels of land with differing amounts and degrees of slopes. As an example, if the City applied a steep slope ordinance with a threshold of 10% of a parcel having a slope of 15 % or greater, then a total of 16 vacant single-family residential parcels would be affected. The same threshold applied to oversized residential lots (developed with only one house but enough land for at least two houses), then 346 lots would be affected. If instead of capturing lots with 10% area in steep

slopes, the regulation only applied to those with 20% area steeply sloped, then 273 underbuilt single-family residential parcels would be affected. Individual parcels can be reviewed for GIS accuracy and topographical information is typically part of survey information in development cases.

SUBDIVISION REGULATIONS

The potential subdivision infill problem

Beyond zoning and construction issues with regard to existing lots, the City has recently seen efforts to create *new lots* for building houses. Examples include the recent North Latham Street and Sunset Drive cases, where the size of the new houses proposed would dwarf those in an established neighborhood or where development issues such as parking, location of garages and building design will lead to incompatible development. In addition, the City is seeing the subdivision of long-held, large, undeveloped parcels, such as on Lloyds Lane and North Quaker Lane. In the future, if a developer obtains a whole block, a portion of a block, or a several block area now occupied by small, modest homes, and seeks to redevelop the area, the developer would undoubtedly seek to resubdivide the land into lots more suitable for modern, larger homes.

The subdivision regulations are found at section 11-1700 of the zoning ordinance, and were last revised as the result of a committee designed for the purpose, led by past Commission chair, Bill Hurd, in mid late 1990s. At that time, the regulations were streamlined without radical changes.

The regulations include a series of technical requirements for plats, a requirement that the subdivided lots comply with zoning, and several requirements for access. Technical requirements include, for example, survey information and lot numbering systems. Zoning requirements for lots require that lots have frontage on a public street, and that the size of the lot meets the zoning requirement for size. As to access, the subdivision regulations make clear, for example, that pipe stem lots are not favored and that fire and emergency access is required. Each of these requirements helps assure that new lots for construction are similar to traditional Alexandria neighborhood homes, with houses on streets, room for parking, and enough size to accommodate a house that meets zoning.

North Latham Street subdivision case

On December 19, 2005, Judge Kemler of the Alexandria Circuit Court ruled that Section 11-1710 (B) of the Alexandria Zoning Ordinance may not be interpreted to permit consideration of improvements on the lot when assessing whether 1) the proposed subdivided lots would be of substantially the same character as other lots in the subdivision, or 2) the resubdivision as improved would detract from the value of adjacent properties. The City is proceeding to trial in this matter in early March. At trial, the City intends to show that denial of the subdivision was based on other factors (aside from consideration of improvements on the lot), including for instance the fact that the proposed subdivision would create a new “corner” lot that is not of substantially the same character as the other corner lots in the original subdivision.

Subdivided lots “in character” with subdivision

The subdivision regulations recognize the importance of maintaining neighborhood character, at least as regards the remainder of the subdivision. At section 11-1710(B), the zoning ordinance provides:

No lot shall be resubdivided in such a manner as to detract from the value of adjacent property. Lots covered by a resubdivision shall be of substantially the same character as to suitability for residential use, areas, street frontage, alignment to streets and restrictions as other land within the subdivision, particularly with respect to similarly situated lots within the adjoining portions of the original subdivision.

In the case of resubdivision then, new lots must be of “substantially the same character” as other land within the “subdivision,” and especially as to “similarly situated lots” within “adjoining portions of the original subdivision.” This prescient regulation, long a part of Alexandria’s subdivision regulations, seeks to maintain neighborhood integrity by prohibiting lots that would be so large, so oddly shaped, or so positioned, as to detract from a neighborhood’s character. As beneficial as this regulation is, however, its parameters both restricted to a narrow set of circumstances and are not specifically set.

Potential infill solutions

If the Commission wishes to pursue amendments to the subdivision regulations, staff suggests that the “in character” rule could be expanded with additional language to make its effect clearer. For example, language could be added to:

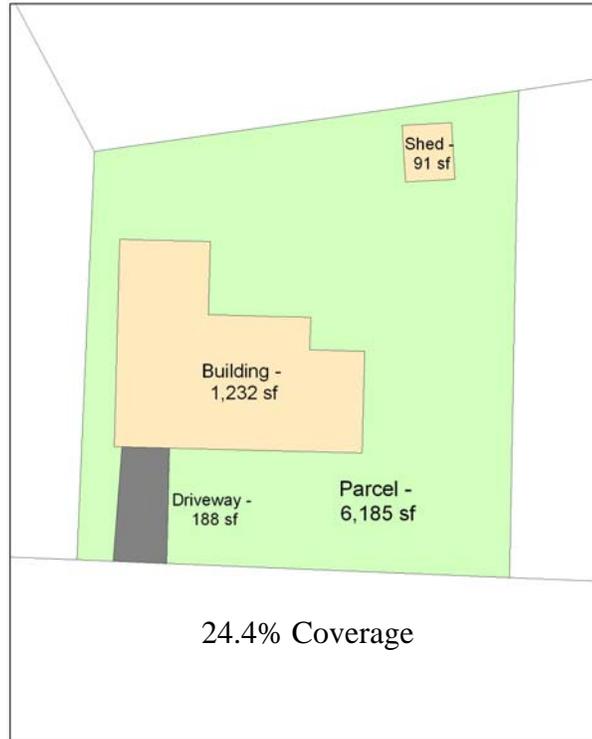
1. Make clear what constitutes a “subdivision” and an “original subdivision” for purposes of the provision. Beyond the original subdivision plat document, which is not always readily available, language describing land in the same location with the same features so as to be essentially identical to the original plat may be helpful.
2. Make clear what “in character” means in this context. While the regulation does include language on this point, and asks that the City look at elements such as areas, alignment to street, street frontage, etc, there may be additional tests that should supplant or be added to the existing regulation to modernize it. The zoning ordinance already incorporates an objective compatibility test for lot sizes that are consistent with a developed neighborhood as part of the substandard lot regulations. It may be that a similar test could be applied in the subdivision context to support the “in character” requirement of section 11-1710(B).

LOT COVERAGE

What is a lot coverage rule?

One typical zoning regulation for single family homes, that Alexandria does not include in its zoning ordinance, is a lot coverage rule. Lot coverage regulations, typically expressed as a percentage, limit the amount of a lot that can be covered with building or other structures because those elements add to the size and bulk of structures and deplete the open space, yards and openness of the remaining lot area. Alexandria's yard and open space regulations function in similar ways; they are a type of lot coverage requirement.

It has been suggested that Alexandria look at the potential for a lot coverage rule to add to its single family zones. Such a regulation, especially on larger lots, would provide a check on the amount of hardscape and building that can be included on a lot – even beyond what is required by yards or open space requirements.



What do other jurisdictions do?

Arlington County, which does not regulate single family homes by an FAR rule, has historically applied a lot coverage limit to single family development. Originally set at 50% many years ago, in recent history, the rule has allowed a maximum of 56% lot coverage in all zones. As applied in Arlington in recent history, the rule counts the footprint of the house and accessory structures on the lot, plus any driveway or paved area. In Arlington, the 56% lot coverage rule applied to all SF zones.

As previously discussed, in the last few months, Arlington County changed its lot coverage rule so as to apply a different percentage to different lot sizes, believing that using a sliding scale would help it address the mansionization issue. The new Arlington rules allows more lot coverage in the smaller lot zones, and a descending amount in the larger zones. They also

include bonuses from the calculation for including front porches and detached garages, two character defining features, and addresses oversized lots. Significantly, in Arlington, the most contentious issue related to its new lot coverage rules was how to apply it to existing homes. As adopted by the Arlington County Board, the new rules apply only to new construction, and not to existing structures unless their size is increased dramatically (by 50%).

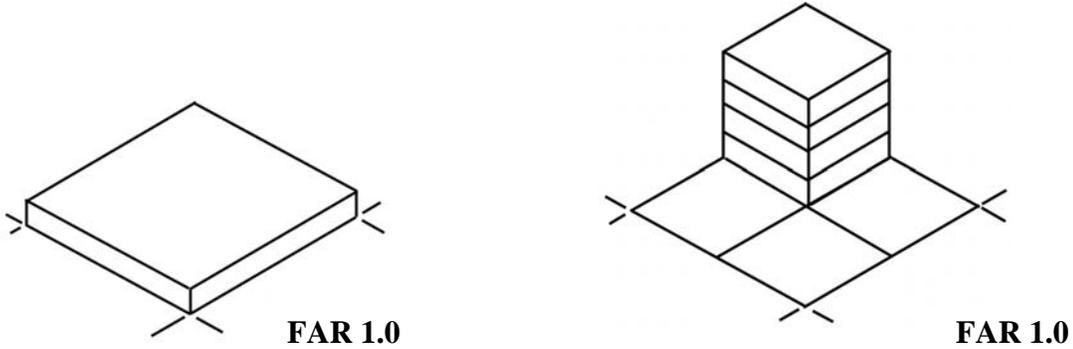
Potential zoning changes

Staff recommends that Alexandria consider the addition of a lot coverage rule, possibly as an alternative to a change to the FAR rules. The two forms of regulation operate to achieve similar ends. If Alexandria wants to pursue a lot coverage scheme, then staff should study the typical coverage dimensions for each zone, as Arlington did.

FLOOR AREA RATIO (FAR)

What is FAR ?

Floor Area Ratio (FAR) is the measure by which the Alexandria zoning ordinance regulates the bulk of buildings, including single family homes. FAR relates the amount of *floor area* within a building to the size of the *land parcel* the building is being sited on. It is a flexible measure allowing a variety of building forms, even on the same size parcel, depending on the building's shape and the number of floors within the structure. For example:



Each zone in Alexandria, including each single family zone, includes an FAR amount stated as a maximum. In addition to the lot size, setback, yard and height regulations that define the envelope for single family construction, each zone includes an FAR requirement to further define the limits of development permitted, and the amount is set on a sliding scale depending on the zone.

Zone	FAR max	Lot Size	Maximum Allowable Floor Area
R-20	.25	20,000 sf	5,000 sf
R-12	.30	12,000 sf	4,000 sf
R-8	.35	8,000 sf	2,800 sf
R-5	.45	5,000 sf	2,250
R-2.5	.45	5,000 sf–single family; 2,500 sf–two family	2,250 sf; 1,125 sf

Although the amount of FAR a building is allowed is found in the relevant zone, the application of the rule is based on the current definition of “floor area” in section 2-145 of the zoning ordinance:

2-145 *Floor area:* The floor area of the building or buildings on a lot or tract or tract of land (whether “main” or “accessory”) is the sum of all gross horizontal areas under a roof or roofs. These areas shall be measured from

the exterior faces of walls and from the eaves of all roofs where they extend beyond the wall line or from the center line of party walls and shall include all space with a headroom of seven feet six inches or more, whether or not provided with a finished floor or ceiling. Excluded shall be elevator and stair bulkheads, accessory water tanks, cooling towers and similar construction not susceptible to storage or occupancy. Basements and subbasements shall be excluded from the floor area ratio computations, but for the purpose of computing off street parking requirements, that portion of such areas as are occupied by permitted uses shall be subject to the provisions of Article VIII.

Potential infill problem with FAR

In Alexandria, FAR is one of, if not *the* principal determinant, of how large a structure can be. Therefore, if the City wants to control overly large new houses or house additions, it is wise to review this regulation and assure that it is functioning as the City desires it to do. While Alexandria has included an FAR regulation in its single family zones for many years, the way the City interprets it has changed over the years.

FAR exemptions

Under the above definition, each horizontal area of floor located under a roof or eave is counted in the calculation, unless the area fits within an exception within the definition. The following areas of buildings are not counted: stairs and stairway, fireplace and elevator shafts, mechanical rooms, and basements that rise less than four feet above the grade. The part of the definition that has proved problematic is the phrase that says that areas to be measured in determining floor area “shall include all space with a headroom of seven feet six inches or more...” For at least 20 years, staff and the development community, have interpreted this phrase to mean that space that is less than 7'6" in height is not counted as floor area. Thus, above ground parking garages, closets, bathrooms, and most attic space were not included in the calculation of FAR.

The 7'6" provision in the FAR definition was probably included originally because of the definition of “habitable space” that was part of the 1993 and prior editions of the Virginia Uniform Statewide Building Code (VUSBC). Habitable space in the VUSBC was defined as having a ceiling height of “not less than 7 feet 6 inches”, except that hallways, corridors, bathrooms, kitchens, laundry rooms were permitted a ceiling height of “not less than 7 feet.” However, if there was a linkage, it was changed in the 1996 edition of the VUSBC to reduce the required height of all habitable space to seven feet.

In recent years on small scale additions and new construction, Planning staff have taken a more restrictive interpretation of the 7'6" provision, limiting exemptions to the FAR calculation for ceiling height. The rationale is that although the floor area definition expressly requires that all space with a headroom of 7'6" be counted for purposes of FAR, it does not expressly say that space that is less than 7'6" is to be excluded from the FAR calculation. Nevertheless, the 7'6" language is a continued source of difficulty for developers and home owners as well as staff.

Application of FAR rule

With the advent of sharply increasing real estate values, every inch of space in buildings, including in single family homes, has value. Therefore, Planning and Zoning staff routinely deal with builders and homeowners over FAR interpretations, as well as the developers of large projects. Over the last decade, staff finds itself routinely in negotiations with applicants over whether, for example, to count closets and bathrooms within FAR calculations. Some examples of the application of the FAR rule show the issue:

1. Historic homes. In Old Town, where most houses are old and built prior to the advent of Building Codes, there are many homes with floor to ceiling dimensions under 7'6." Arguably, under the definition there could be an entire house or large portions of existing homes without any floor area, and therefore not part of the FAR calculation. If such a house is the subject of an application for an addition, then the homeowner could argue that he is entitled to a larger addition than if his entire existing house counted as part of the floor area calculation. The result could be a much larger house than was envisioned in the neighborhood.
2. New homes on vacant or cleared land and house expansions In new homes or additions to existing houses, questions of how to calculate the floor area can become issues. For example, residential builders will routinely propose bathrooms, closets and attic space that have ceilings lower than 7'6" and argue for eliminating that area from the FAR calculation. The problem is exacerbated by the use of false ceilings, which can be removed after construction, or the change, sometimes innocent, in the intended use of space. For example, if the built space over a two-car garage is only 7 feet tall and designated for storage, later owners of the property could decide to use the space as a bedroom. If a builder uses a false ceiling initially, there is no after-the-fact inspection to check to ensure that the ceiling remains forever. Another problem is created when builders manipulate the basement exemption by piling up soil and landscaping around the base of a new home to ensure the basement does not extend more than the four feet above grade that the exemption allows.
3. FAR Deductions and Above Grade Parking. It is often unsettling to find that large components of new buildings, typically commercial buildings, are able to take advantage of the FAR deduction rule, especially by building above grade parking structures with ceiling heights lower than 7'6." This can account for 15-20%, or more, of a building being deducted from FAR. For example, the office building at 1101 King Street covers almost a full block. The structure contains an office building and parking structure with some retail on King Street. Although a large building by any measure, more than half of the building is not counted as FAR because it is a parking garage with low ceiling heights, excludable as FAR. The result is that the public experiences the bulk of the building but the regulation does not count the bulk in its calculation. Another example is a recent concept application for an automobile use for the construction of a modest office surrounded by a three-level parking structure. If the parking were counted, the proposed structure have a 2.5 to 3 FAR. Because the parking garage ceilings are low, however, the applicant is able to calculate the FAR of the building as .5, in compliance with the zoning.

The effect of these examples is to undermine the integrity of the City's regulations, to make more work for staff who review applications, and to create uncertainty on the part of property owners, developers, and the public at large.

What do other jurisdictions do?

Not all communities use FAR to regulate the size of single family homes. In the recent infill debates in Montgomery County, the discussion focused on height limits because there is no FAR rule for single family in the close-in communities. Arlington County does not include an FAR rule in its single family zones; therefore the infill debate in that jurisdiction focused on coverage requirements. In some jurisdictions with an FAR rule, there are no exemptions from the calculation whatsoever (a gross FAR calculation). In Montgomery County, where FAR does apply, it is a gross not a net figure. And for those jurisdictions that do use a net figure, allowing for some exemptions, it is rare to find one that exempts space with low ceilings. Typical exemptions in those cases involve elevator and stair shafts and true mechanical space.

Past reviews of the FAR definition.

The City has previously considered changing the definition, and the effort has not succeeded. The Zoning Task Force, formed to guide the comprehensive revision of the zoning ordinance adopted in 1992 recommended that the FAR rules be changed to eliminate the 7'6" language. And in the late 1990s, City Council and the Planning Commission considered a similar recommendation. That effort was ultimately tabled for lack of consensus. Attached is the staff report from TA #98-0014, as well as two memorandums from the City Attorney's Office regarding FAR.

Potential ways to modify FAR

1. Elimination of 7'6" language.

The issue with changing the definition to eliminate the 7'6" exemption, or otherwise changing the method of calculating FAR, is one of fairness. In an almost completely developed city, where every structure has been built under the rules existing at the time, to change the method of calculating FAR would mean that many existing structures would become noncomplying because they would not conform to the new rules.

Much of the City, especially the single family homes on the eastern part of the City, were built before zoning, and are today already noncomplying in some way, typically with regards to one or more yard requirements. After the 1992 zoning ordinance change, these homes were made subject to new noncomplying rules, specifically prohibiting an expansion without approval of a variance or special exception by the BZA. The noncomplying label has not deterred homeowners from putting on new, large additions, but it does mean that the BZA gets involved to review the addition, as well as the need to waive the noncomplying rule in that case.

If the FAR definition were to be changed to not allow some exemptions that are now allowed, then ultimately a smaller building would be permitted than is allowed today. With that loss of space previously allowed, some would argue that homeowners are harmed as relates to either the amount they paid for the house or the land, or the size of additions their neighbors have been allowed. The difference could arguably be made up by increasing the amount of FAR allowed in a zone by a corresponding degree. Under this approach the FAR maximums in the single family zones could be increased to allow greater FAR buildings, although the FAR would be calculated under the new rules.

Another option is the potential for applying a new way of measuring FAR only to new construction, which could be defined to include only new structures and additions to existing structures over a certain threshold, and/or only to development site plan cases.

2. Gross instead of net FAR rule.

While similar to eliminating the 7'6" rule, this approach would go further and simply measure the full square footage of each floor to the outside dimension of buildings. This approach was used within the Coordinated Development Districts in Eisenhower East and for those CDDs more recently approved in Arlandria and Mt. Vernon Avenue. While there are no exclusions on floor area, volumetric spaces, such as elevator shafts and atriums, are excluded. We have found that this approach offers the community and the developer more surety that the FAR calculation actually reflects the real mass and scale of buildings. The advantage is simpler administration and better understanding of the zoning code by the public.

In the CDDs where this approach has been applied, detailed analysis was performed to determine the appropriate gross FAR to ensure compatibility of new development with existing neighborhoods. Applying this approach across the board, without adjustment to the allowable FAR, would have the same impact as eliminating the 7'6" exemption rule noted above -- allowing smaller buildings than would be permitted today. Again, to compensate, the difference could be made up by increasing the amount of FAR allowed in a zone by a corresponding degree.

3. Eliminate FAR as a measure for single family homes.

Another idea is to do away with FAR altogether. Some argue that for single family, the true measure of the form and size of a structure can be achieved by regulating height, setbacks and volume, which would be a new zoning regulation for Alexandria. A lot coverage ratio could compliment open space requirements and be a possible substitute for FAR.

4. Other approaches.

Other approaches that could be implemented in single family zones, with or without changing the FAR definition are:

- a. Establish a certain threshold for house additions, or replacement houses, at which point the City could require an SUP, variance or other design review approval to ensure compatibility with the neighborhood. For example, for an increase of more than (25%, 50%) of the existing FAR, height or gross footprint, additional approval would be required.

- b. Identify designated and mapped neighborhood conservation areas of the City to limit where the threshold would apply. Areas could be chosen by design, history and neighborhood character and could include a requirement that the approach be favored by the neighborhood.
- c. Because FAR is related to the size of land, larger houses are automatically allowed on larger lots. While the City includes a *minimum* lot size, it does not include a *maximum* lot size regulation. In some neighborhoods, both large houses and large lots would be out of scale and could be prohibited, or at least made subject to additional review.

The FAR issue is difficult, and the City has tried unsuccessfully to address it in the past. Nevertheless, staff is prepared to discuss it and study it further, and to respond to the Commission's direction on the subject.

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