



***Docket Item #5***  
***Text Amendment #2017-0001***  
***Floor Area Ratio***

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<b>Issue:</b> (A) initiation of a Text Amendment, and (B) Public hearing and consideration of a Text Amendment to the Zoning Ordinance to amend sections 2-145, 2-195, and 7-202 and to add new sections 2-113.1 and 2-194.1 regarding floor area ratio.	Planning Commission Hearing:	February 6, 2018
	City Council Hearing:	February 24, 2018
<b>Staff:</b> Mary Christesen, Zoning Manager <a href="mailto:mary.christesen@alexandriava.gov">mary.christesen@alexandriava.gov</a> Chrishaun Smith, Urban Planner <a href="mailto:shaun.smith@alexandriava.gov">shaun.smith@alexandriava.gov</a> Sam Shelby, Urban Planner <a href="mailto:sam.shelby@alexandriava.gov">sam.shelby@alexandriava.gov</a>		

**PLANNING COMMISSION ACTION, NOVEMBER 9, 2017:**

On a motion by Commissioner Brown, seconded by Commissioner Koenig, the Planning Commission voted to defer Text Amendment #2017-0001. The motion carried on a vote of 6-0.

**Reason:** The Planning Commission voted to defer the text amendment for further study and discussion on detailed elements of the amendment. Several issues that the commission would like us to study include the proposed attic provision, bathroom exclusion, and parking garages.

Commissioner Koenig commended staff on this effort to amend the city's floor area ratio policies. He believed that eliminating an inadvertent differentiation between the 7'6" ceiling height zoning regulation and the 7'0 building code regulation is an appropriate change. However, he requested additional information on the methodology justifying the proposed square footage for a new loading dock exclusion. Commissioner Koenig explained his concern with creating an exclusion for lavatories for certain properties subject to the general FAR requirements. Lastly, Commissioner Koenig expressed concerns about the proposed attic exclusion provision, stating he does not believe that the exclusion as proposed addresses situations where architects might design a roof with a low pitch to avoid the attic area counting toward FAR, and that potentially too much inhabitable attic area would count toward FAR under this provision. Commissioner Wasowski agreed with this concern about the attic provision. However, Commissioner Brown, Vice Chairman Macek, and Chairwoman Lyman believed that it may be appropriate in some instances to count habitable attic space toward FAR.

Commissioners Brown and McMahon requested additional information about the ceiling height of existing above grade parking garages, including information about the heights of the above grade parking garages that currently exist. They expressed concern about the zoning implications on these structures with this zoning change.

Speakers:

Kim A. Beasley, AIA, spoke in favor of many of the changes to the FAR regulations; stating that many will improve upon current practices.

Dean Graves, representing the Institute of Defense Analysis (IDA) spoke in opposition to the proposed text amendment of concern that the proposed text amendment could affect the value of their property if their parking garage would count against their property's FAR.

Johnathan Rak, McGuireWoods LLP, speaking on behalf of a number of clients who are potentially affected by the proposed changes. Believes while there are some positive aspects of the FAR changes, his clients were opposed to explicitly requiring all above grading parking garages to count toward FAR.

Kenneth Wire, McGuire Woods, Chairman of NAIOP – Alexandria Subcommittee. Believes that the proposed changes are an improvement and removes ambiguity. Concerned with how to address above grade parking garages that may become noncomplying due to this change.

Steve Hales, real estate professional. While thanking staff for revisiting the FAR regulations, he is opposed to the FAR text amendment on the grounds that space in attics should not count toward FAR and that the lavatory exclusion seems arbitrary.

## **I. Issue**

The purpose of this proposed text amendment is to modify and amend the City's Floor Area Ratio (FAR) regulations in the City's Zoning Ordinance. FAR standards control the maximum amount of building square footage that can be developed on a property based on its lot size. This regulation controls building bulk and use intensity by limiting the amount of overall building area on each property. The recommended changes are intended to clarify and update the existing regulations to reduce ambiguity and to address current building practices while continuing to avoid excess building bulk in the city.

FAR standards are based on the definition of Floor Area found in Section 2-145 of the Zoning Ordinance. Generally, floor area is defined as all horizontal building area under any type of roof, but portions of buildings are exempt from being included in floor area calculations. There is a list of exclusions for single and two-family dwellings in the R-20, R-12, R-8, R-5, R-2-5, RA, and RB zones outside regulated historic districts (these are buildings under the "infill" regulations), and there is a different list for all other building.

While the current regulations adequately control building bulk and intensity, there are several aspects of the current floor area definition and FAR regulations that are inconsistent and ambiguous requiring staff interpretation. Aspects of the floor area definition also create dis-incentives for desirable urban design and desirable building features such as decorative architectural features, balconies and decks as outdoor living spaces, and indoor loading docks at commercial properties. The proposed FAR regulations are intended to not only provide clarity for staff, residents, and the development community but also to facilitate desirable design elements on buildings to enhance their quality without inappropriately increasing their bulk.

## **II. Background**

Floor area ratio is used as a development standard to regulate the maximum amount of building bulk that may be developed on an individual property. This development standard has been a basic component of local zoning standards since the adoption of the City's first zoning regulations in 1951. The definition of floor area and corresponding standards for land uses have been modified over time in various iterations of the Zoning Ordinance.

Most recently, in June 2008, City Council adopted Residential Infill Regulations to mitigate neighborhood impacts arising from the construction of oversized, incompatible new homes and additions. This update created different sets of exemptions for infill single- and two-family dwellings than were available to other types of buildings. These infill exemptions include exclusions for certain front porches and detached garages to facilitate neighborhood-compatible and community-building design elements for houses in established neighborhoods.

The text of the 2008 floor area definition added for infill houses stated in Zoning Ordinance Section 2-145(A) reads as follows:

For residential dwellings in the R-20, R-12, R-8, R-5, R-2-5, and single-family and two-family dwellings in the RA and RB zones (not including property located within the Old and Historic Alexandria and Parker-Gray Districts), floor area is the sum of all gross horizontal areas under roof on a lot. These areas shall be measured from exterior faces of walls or any extended area under roof, but does not include areas under the eaves of the roof. Floor area with a ceiling height 15 feet or greater shall be counted twice. Floor area with a ceiling height 25 feet or greater shall be counted three times. Excluded from floor area shall be:

- (1) Stairs and elevators.
- (2) Floor space used for water tanks and heating and cooling equipment (but not including ductwork, pipes, radiators or vents).
- (3) Basements.
- (4) Attic floor area with less than five feet of ceiling height as measured from the attic floor, or floor joists if there is no floor, to the bottom of the roof rafter or truss member supporting the outer roof structure.
- (5) Open front porches and porticos in accordance with section 7-2504.
- (6) Free-standing garages to the rear of the main building in accordance with section 7-2505.

For all other building types, the floor area definition stated in Zoning Ordinance Section 2-145(B) reads as follows:

For properties except for those specified in subsection A. above, 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.

Aspects of these definitions are subject to interpretation, and that interpretation activity requires significant staff and applicant time and may result in projects that are not consistently regulated.

Staff identified several key issues related to current floor area ratio regulations that are described in more detail below. In researching remedies to these issues, staff met with and received input from key stakeholders including architects and builders, NAIOP: The Commercial Real Estate Development Association, the Federation of Civic Associations, and the Del Ray Civic Association. Staff recommends several changes to the definition, and by extension, the FAR regulations, in several key areas: exclusions for attic space (in

one and two-family construction), stairs, architectural features, space under decks and balconies, awnings, sheds, and loading space. Staff also recommends changing how ceiling height is evaluated for determining floor area to more closely align the Zoning Ordinance with the ceiling height limits specified by the Virginia building code.

## **A. Attics**

### *Current Attic Definition*

For most dwellings in residential zones, Zoning Ordinance Section 2-145(A)(4) allows portions of attics to be excluded from floor area where there is less than five feet of ceiling height as measured from the attic floor, or floor joists if there is no floor, to the bottom of the roof rafter or truss member supporting the outer roof structure. Prior to the adoption of the infill regulations, the floor area definition stated that all areas above 7' 6" in ceiling height shall be counted floor area; leaving it up to interpretation whether attic floor area with less than 7' 6" ceiling height could be excluded.

For other properties, section 2-145(B) applies and states that attic floor area can be excluded if it has a ceiling height of less than 7' 6".

Illustrations A and B in attachment #2 of this report show staff's current interpretation of section 2-145(A)(4). These illustrations both show the same dwelling with a typical width of 24 feet and a 9½:12 roof pitch. Illustration A shows an attic with a collar tie which would be considered a "truss member supporting the outer roof structure." The collar tie reduces the attic's ceiling height to less than five feet and is fully excluded from floor area. Illustration B shows attic space that cannot be fully excluded from floor area because it has a ceiling height of more than five feet. The space that cannot be excluded from floor area is shown in orange.

Interpretation of this rule is difficult because the "truss member supporting the outer roof structure" language is ambiguous. Staff is unable to determine if collar ties or trusses are structurally necessary. Staff must also require applicants to submit detailed attic drawings for most building permits so floor area compliance can be determined. These drawings are required for most additions; even when the attic is outside of the scope of work. The language is also confusing to property owners, architects, and neighbors resulting in varying expectations of what spaces are eligible for floor area exclusion. Last, it does not capture any floor area in an attic that's designed or retrofitted as shown in illustration A. None of the attic space's mass would be captured in floor area calculations.

Staff's current interpretation of section 2-145(A)(4) marks a departure from the intent of the 2008 infill regulations. The Infill Task Force intended for floor area calculations to be more representative of the true volume of a dwelling. In fact, excessive deductions in attic levels were one of the main driving factors that led the Task Force to recommend these changes to floor area regulations.

## **B. Stairs**

For both FAR definitions as outlined in Section 2-145, stairs may be excluded from a building's gross floor area. Stair landings (which may be of the same width as their corresponding steps) may be excluded up to a depth of 3 feet, per an existing staff guidance memo. While a stair and corresponding landings are common floor area exclusions, there is currently not a defined standard for what constitutes a stair in order to determine its eligibility for exclusion. Staff and design professionals have had to guess how many steps are enough to constitute a stair eligible for exclusion. Staff proposes to codify existing practices, as explained in staff guidance documents, and clarify how many steps are necessary to qualify as an excludable stair.

### **C. Architectural Features and Decks/Balconies**

The FAR standards as currently defined specify that all areas “under roof” shall be included in a building's calculable floor area. Cornices, sills, eaves, and awnings are considered roofs, so spaces under them are counted as floor area. This creates a disincentive for architects to be creative with the design of their structures and hinders the development of buildings with certain architectural styles and unique features. For example, the solar building projections of the AlexRenew building (graphic 3) count toward the building's floor area. In addition, many Craftsman-style houses (as depicted in graphic 4), which use a common architectural style found in Del Ray, Rosemont, and other traditional neighborhoods, have wide eaves, and any eave area projecting more than a foot from a building wall counts towards floor area for its space underneath.



**Graphic 3**



**Graphic 4**

Additionally, balconies and decks, under current standards, are classified as “roofs,” and spaces under them are not eligible for exclusion from the floor area definitions; therefore all areas beneath these balconies and decks count toward FAR. The current FAR regulations create a disincentive for a building design that incorporates balconies because some architects may be inclined to create more habitable floor area instead of balconies that can desirably break up building bulk. This disincentive makes it difficult to incorporate

balconies and decks as usable open living space for multi-story residential and commercial buildings.

#### **D. Loading Space**

Current FAR regulations do not allow for the exclusion of interior loading spaces for residential, mixed-use or commercial buildings. For many reasons including good urban design and for noise control, the City encourages required loading areas to be indoors. The current FAR regulations, however, create a disincentive for locating these types of spaces interior to buildings.

#### **E. Ceiling Height**

The current FAR standards as defined in Section 2-145 define area in buildings with a ceiling height of less than 7 foot 6 inches as being excludable from floor area calculations for non-infill development, even though the Virginia statewide building code permits habitable spaces with lower ceiling heights. For buildings with ceiling heights less than 7'6", which are fairly common in Historic Districts, such areas can be excluded entirely from FAR even though are part of the bulk and mass of their buildings. These rooms often include above-ground garages, bathrooms, closets, or other rooms with dropped ceilings.

### **III. Discussion of Proposed Text Changes**

The proposed text amendment seeks to modify and clarify certain FAR regulations and exclusions. There is no proposed change to certain parts of the floor area definitions where they function adequately today. These include the exclusions listed for elevators, basements, open front porches and porticos, freestanding garages, and floor space for utilities. Below is a description of the proposed modifications to the city's floor area exclusions in the definitions where issues described above need to be addressed:

#### **Action after November Public Hearing**

At the November 8<sup>th</sup> Public Hearing, Planning Commission deferred action on the text amendment to the Zoning Ordinance's Floor Area Ratio (FAR) regulations. Staff would like to provide additional information and research that has been conducted on the proposed exclusions in conjunction with changes with our FAR regulations.

In the case of the text amendment, Planning Commission instructed staff to provide additional explanation on the following:

##### **1. Transition period**

Planning Commission requested additional information regarding the implementation of the proposed changes to the FAR regulations which would provide builders and developers the opportunity to use either the existing or the proposed FAR definition. Staff conducted additional outreach with key

stakeholders within the development community to gauge how implementing these changes may affect proposed development. Upon additional outreach, staff recommends to implement phasing in the new FAR provisions in full 6 months from the date of adoption of these changes by City Council. This would give any development that has been submitted for a preliminary review within this timeframe to either move forward under the existing FAR regulations, or utilized the proposed FAR regulations (in whole only, not in part).

2. Above ground parking garages:

Planning Commission received feedback at the public hearing concerning the effect that the proposed exclusions would have on existing above grade parking garages within the city in addition to above grade parking garages that have been approved with a final site plan that may have not been constructed as of the date of adoption of these proposed regulations. Planning Commission members requested staff to reanalyze the impact of this text amendment on these structures.

Staff reanalyzed the impact that the proposed provisions would have on existing above grade parking garages and approved unbuilt parking garages. In analyzing many of these parking garages, the ceiling height of garages has been interpreted with varying degrees in certain developments; with the ceiling height be measured to the structure's functional clearance height. For example, floor area within several above grade parking garages that have been approved were excluded based on the structural clearance height. An example of these exclusions to floor area can be illustrated in exclusions granted for above grade parking garages built within the Mark Center. These garages have clearance heights of 6' 6" but have an actual ceiling height greater than 7' 6" as measured from the floor of the garage to the bottom of the 2<sup>nd</sup> floor construction. The text changes, as proposed in November, would have resulted in a change in zoning interpretation of floor area for many of the parking garages whereby the floor area would have counted against a property's floor area ratio. This unintended consequence may result in an increase in net floor area for many developments. Furthermore, this may preclude the completion of previously approved multi-phased developments unless they receive an amendment to their approved development site plans.

Staff proposes to include two new exclusions to address this unintended consequence. The first exclusion would exclude any floor area that was used as a private or public parking garage prior to the date of adoption of this text change that had a headroom less than 7 feet 6 inches. Lastly, staff proposes to include another exclusion that would exclude floor area that was shown as excluded as part of an approved development site plan within a Coordinated Development District

3. Attics and Loading Docks



Furthermore, Planning Commission also requested that staff reanalyze the impacts of the attic and loading dock provisions. Staff has completed an evaluation and has provided additional descriptions regarding the attic and loading dock exclusions listed below.

#### 4. Sheds

The text amendment language as presented at the public hearing included a recommendation to include exclusions for sheds built as accessory structures for single-family, two-family, and townhouse dwellings. Following the public hearing, staff began a review and analysis of existing zoning ordinance provisions regarding sheds and other small accessory structures regarding appropriate height, size, and location. Therefore staff proposes to remove the shed exclusions as part of this text amendment. These exclusions would be included as part of a future text amendment regarding small accessory structures.

#### A. Attics

Staff proposes to amend Section 2-145(A)(4) by deleting the ambiguous “truss member supporting the outer roof structure” language and by increasing the excludable attic ceiling height limit from five to seven feet. Staff also proposes to exclude attic space with a ceiling height of seven feet or more if its width is four feet or less. Illustrations C, D, and E in attachment #2 of this report show how the proposed amendments would apply. In each of these graphics, attic floor area is shown in orange. Attic space that would be eligible for exclusion is shown in grey. Illustration C shows a dwelling with a typical width of 24 feet and a 9½:12 roof pitch. Illustrations D and E show a dwelling with a steeper roof pitch (12:12). Because the roof has a steeper pitch, the attic space with a ceiling height of more than seven feet is greater than four feet in width.

ILLUSTRATION	DWELLING WIDTH	ROOF PITCH	AREA W/ 7' HEIGHT GREATER THAN 4' IN WIDTH
C	24 FEET	9 ½ : 12	NO
D	24 FEET	12:12	YES
E	24 FEET	12:12	YES

At the November 9<sup>th</sup> hearing, several Planning Commissioners expressed concerns about including unusable or uninhabitable attics in floor area. They were also concerned that the proposal could encourage builders to construct dwellings with lower pitched roofs to avoid creating attic space with floor area that cannot be excluded. Although the roof design shown in illustration E is not habitable, its bulk would still need to be captured as floor area to uphold the intent of the infill regulations and ensure that the dwelling's overall mass is compatible with surrounding development.

Staff reviewed 22 new single-family dwellings that were constructed over the past two years. Attic floor area exclusions made up an average of about 25% of the total gross square

footage of these dwellings. The proposed amendments would change the attic floor area exclusions to an average of about 27% of the total gross square footage of these dwellings. A table showing relevant floor area calculations of these dwellings is included in attachment #4 of this report.

13 of these dwellings were constructed with attic levels that were excluded entirely from floor area. Of these dwellings with fully excluded attic space, all but three of them were designed with lower pitched roofs so a two-story dwelling could be constructed without exceeding the maximum allowable height.

Overall, staff believes the proposed amendments to the attic provisions provide for a better balance than the existing regulation between floor area as an external measure of a dwelling's volume or bulk and an interior measure of habitable or usable space. They would also reduce the complexity of attic drawings that staff currently requires to verify floor area compliance.

### **B. Ceiling Height**

Staff proposes to change the ceiling height provision for which room space may be excluded from floor area. Currently, the existing standard only counts floor area for development that is subject to the provisions of section 2-145(B) where the height of the ceiling is at minimum 7 feet 6 inches. As part of this change, floor area would instead include all space with a ceiling height either deemed habitable by the Virginia Statewide Building Code or at least 7 feet high, whichever is less. This change would create consistency between the building code and Zoning Ordinance and would more accurately capture the bulk of a building. This change would eliminate the discrepancy in situations where rooms or parts of rooms have ceiling heights below 7 foot 6 inches in height that may be habitable and contribute to the bulk of a building but currently can be deducted from floor area. This change would also result in all above grade parking garages being subject to floor area ratio calculations of most zoning districts to be calculated as part of floor area, regardless of their ceiling height. This change would not affect floor area calculations and standards for developments in certain coordinated development districts and small area plans that have separate codified FAR or building square footage requirements.

### **C. Lavatories**

Because less area would be able to be excluded from floor area as a result of the change in the ceiling height standard for properties not subject to infill regulations, staff proposes a new exclusion for lavatories (bathrooms and restrooms) for properties subject to the FAR standards of section 2-145(B). Each lavatory may be excluded up to a maximum area of 50 square or the size of the lavatory, if smaller. The maximum total excludable area for all lavatories shall not exceed 10% of the total gross floor area of any building. This provision would allow for the exclusion of floor area within lavatories which serve a similar function as mechanical and stairway spaces as all are considered utility spaces that are necessary features of all buildings to be considered functional and occupiable. This new standard

creates a more predictable and measurable exclusion area and eliminates an incentive for builders to reduce ceiling heights to avoid calculable floor area.

#### **D. Architectural Features**

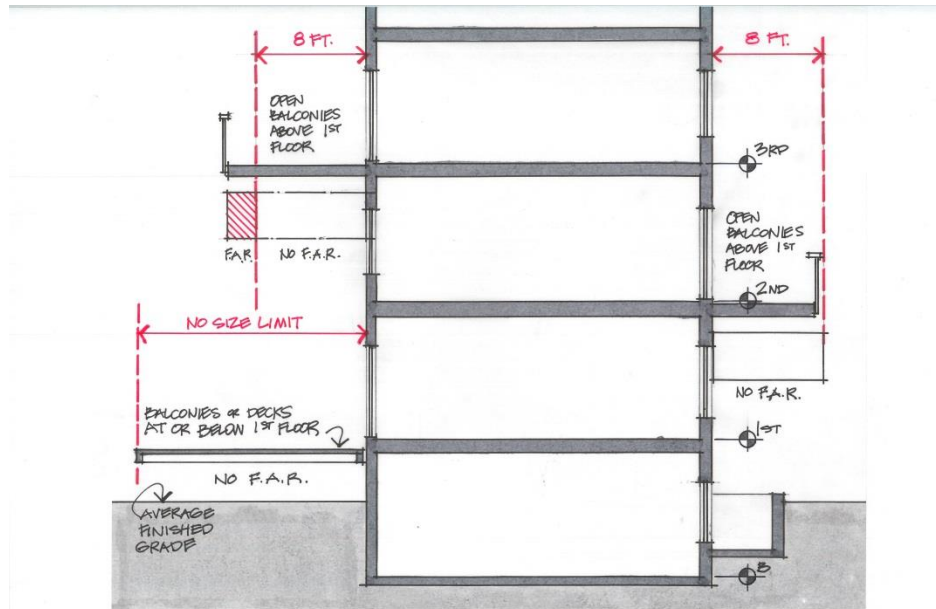
Staff proposes to create FAR exclusions for certain types of architectural projections from buildings. This would include “architectural features” and retractable awnings. Architectural features, proposed to be defined in new Section 2-113.1, would include awnings, cornices, eaves, sills, canopies, gutters, and other overhangs, this new definition in conjunction with amendments to Section 2-145 would be excluded up to a maximum of 30 inches (or 2 feet and six inches) in depth. This amendment would not only streamline the way FAR will be calculated but would also incentivize unique building features that may currently count toward FAR (such as solar panels or wide eaves) that are indicative of architectural styles common to neighborhoods.

Staff also proposes exclusions for retractable awnings that are not enclosed by walls, poles (including poles for support), or fencing on three sides.. This would allow for the exclusion of certain manufactured types of awnings.

#### **E. Decks and Balconies**

Staff proposes to create an exclusion to allow areas under decks and balconies to not count toward a building’s calculable floor area. This new standard would incentivize desirable outdoor living space that may be useful in urban buildings, and it partially offsets the loss of floor area that may result from the elimination of the existing 7’ 6’ ceiling height exclusion. Staff proposes to allow two types of exclusions, which would depend on where the deck or balcony is projecting from a building.

If the deck is projecting from a basement or the first floor, the area underneath it may be excluded in its entirety from floor area. However, if the balcony is projecting from the second floor or above, the area underneath may be excluded only up to a maximum depth of 8 feet (as shown in graphic 6). This maximum depth exclusion would allow for the development of decks and balconies that are useable yet do not project a substantial distance from the face of their buildings and thus would not likely create visual clutter or obstruct light and air to neighboring properties.



**Graphic 6: Balcony and deck exclusions**

#### **F. Loading Space**

Staff proposes to create a new standard that would incentivize the construction of desirable indoor loading areas by removing a penalty for placing such activity areas indoors. Each development would be allowed to exclude 850 square feet of floor area per interior loading space, if the space is required by the Zoning Ordinance (1 space is required per every 20,000 square feet of building floor area). This exclusion represents an increase of excludable area for loading spaces following the November public hearing on this text amendment. Commissioners responded to comments that the proposed loading dock exemption area may be too small and instructed staff to review the proposed size limit. The previous size of the exclusion as proposed at the November public hearing was the result of an analysis of the size of loading dock that have been approved in conjunction with a development site plans within the last five years. The current proposed exclusion reflects the largest loading space that has been approved within the same time period. This exclusion would also partially offset loss of floor area caused from the elimination of the existing 7' 6" ceiling height exclusion. Staff believes that increasing the size of the loading space exclusion would have a negligible impact on the percentage of floor area that would have been excluded with many of these projects (see attachment 2) and would encourage good design of these spaces that may reduce negative visual and noise impacts to the surrounding neighborhoods where they may be located.

#### **IV. Recommendation**

Staff recommends that the text amendments contained in Attachment 1, be approved. These changes, if adopted shall apply to all applications for land use, land development or subdivision approval submitted after the date of adoption.

Staff: Mary Christesen, Zoning Manager  
Shaun Smith, Urban Planner  
Sam Shelby, Urban Planner

Attachments: 1 – Amended Zoning Text – Proposed Zoning Ordinance Changes  
2 – Attic Illustrations  
3 – FAR Calculations – Sample DSP/DSUP Projects  
4 – FAR Calculations – Sample Single-Family Projects  
5 – FAR Exclusions – Select Jurisdictions

**Attachment #1**

*Proposed Zoning Ordinance Changes* – The following text will modify or replace text in sections 2-145, 2-195, and 7-202 while adding additional definitions as sections 2-113.1 and 2-194.1.

**Note:** New text is underlined

~~Deleted text is shown with a strikethrough~~

**Sec. 2-100 - Definitions.**

For the purposes of this ordinance, the following words and phrases shall have the meaning assigned below, except in those instances where the context clearly indicates a different meaning.

**2-113.1 Architectural feature.** Awnings, cornices, eaves, sills, canopies, gutters, overhangs or similar features (not including bay windows and balconies) that are unenclosed projections that extend beyond an exterior face of a wall or column.

**2-145 Floor area.**

- A. For residential dwellings in the R-20, R-12, R-8, R-5, R-2-5, and single-family and two-family dwellings in the RA and RB zones (not including property located within the Old and Historic Alexandria and Parker-Gray Districts), 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 roof on a lot. It shall include all space which is deemed habitable space by the Virginia Uniform Statewide Building Code (USBC) or seven feet or more in height, whichever is less. These areas shall be measured from exterior faces of walls or any extended area under roof, ~~but does not include areas under the eaves of the roof and are to be measured from the shared lot line in the case of party walls.~~ Floor area with a ceiling height 15 feet or greater shall be counted twice. Floor area with a ceiling height 25 feet or greater shall be counted three times. This space shall be based on permanent construction whether or not provided with a finished floor or ceiling. Excluded from floor area shall be:

- (1) Stairs, and elevators. The term stairs includes ramps and other similar structures deemed necessary to provide access to persons with disabilities.
- (2) Floor space used for ~~water tanks and heating and cooling equipment~~ utilities, which may include accessory water tanks, cooling towers, mechanical and electrical equipment, and any similar construction not

susceptible to storage or occupancy (but not including ductwork, pipes, radiators or vents).

- (3) Basements.
- (4) Attic floor area with less than five feet of ceiling height as measured from the attic floor, or floor joists if there is no floor, to the bottom of the roof rafter or truss member supporting the outer roof structure with a ceiling height of 7 feet or less and where the space with the ceiling height of 7 feet or more is less than 4 feet wide, as measured from the attic floor or floor joists if there is no floor, to the bottom of the roof rafters.
- (5) Open front porches and porticos in accordance with section 7-2504.
- (6) Free-standing garages to the rear of the main building in accordance with section 7-2505.
- (7) Architectural features up to a maximum projection of 30 inches extending beyond an exterior face of a building wall or column.
- (8) Space under open balconies (decks) and similar structures projecting from the first floor or below.
- (9) Space under open balconies and similar structures projecting from a floor above the first floor up to a maximum depth of 8 feet.
- (10) Retractable awnings not enclosed by a wall, pole, or fence on three sides and that do not use poles or posts for structural support.

- B. For properties except for those specified in subsection A. above, the floor area of the building or buildings (whether "main" or "accessory") 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 on a lot. 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. These areas shall be measured from the exterior faces of walls or any extended area under roof and are to be measured from the shared lot line in the case of party walls. It shall include all space which is deemed habitable space by the Virginia Uniform Statewide Building Code (USBC) or seven feet or more in height, whichever is less. It shall include all space within an above grade parking garage. 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. This space shall be based on

permanent construction whether or not provided with a finished floor or ceiling. Excluded from floor area shall be:

- (1) Stairs and elevators. The term stairs includes ramps and other similar structures deemed necessary to provide access to persons with disabilities.
- (2) Floor space used for utilities, which may include accessory water tanks, cooling towers, mechanical and electrical equipment, and any similar construction not susceptible to storage or occupancy (but not including ductwork, pipes, radiators or vents).
- (3) Lavatories of which only a maximum of 50 square feet of each lavatory can be excluded. The maximum total of excludable area for lavatories shall be no greater than of 10% of gross floor area.
- (4) Basements (except shall be included for purposes of calculating the off-street parking requirements pursuant to Article VIII).
- (5) Architectural features up to a maximum projection of 30 inches extending beyond an exterior face of a building wall or column.
- (6) Space under open balconies (decks) and similar structures projecting from the first floor or below.
- (7) Space under open balconies and similar structures projecting from a floor above the first floor up to a maximum of depth of 8 feet.
- (8) Retractable awnings not enclosed by a wall, pole, or fence on three sides and that do not use poles or posts for structural support.
- (9) Loading spaces of which only a maximum of 850 square feet for each required loading space per section 8-200(B)(2) can be excluded.
- (10) Any floor area that was used as a private or public garage prior to [date of adoption] that had a headroom less than 7 feet 6 inches.
- (11) Floor areas excluded as part of a development site plan that were approved prior to [date of adoption] within a Coordinated Development District.

**2-194.1 Stairs.** A series of two or more risers leading from one level or floor to another. For the purposes of calculating floor area, a stair shall include a landing at each end which shall have the same width as the corresponding stair flight and extends for four feet from the stair. The term stairs also includes escalators.

**2-195 Story.** That portion of a building included between the surface of any floor and the surface of the next floor above it, or any space which has or may have a floor with a minimum clear headroom of seven feet, six inches. ~~with a minimum clear headroom of seven feet, six inches.~~ with a minimum clear headroom that shall be deemed habitable space by the Virginia Uniform Statewide Building Code (USBC).



## 7-202 - Permitted obstructions.

The following obstructions shall be permitted when located in a required yard and placed so as not to obstruct light and ventilation and when otherwise permitted by law:

(A) In all yards:

- (1) Open fences which do not exceed three and one-half feet in height.
- (2) Awnings or canopies provided they do not project more than five feet in depth from the existing building face.
- (3) Bay or display windows, projecting 20 inches or less into the yard and gutters, eaves, cornices, ~~or~~ window sills, and roof overhangs projecting ~~42~~ 30 inches or less into the yard.
- (4) Chimneys projecting 30 inches or less into the yard, provided that such projection does not reduce the width of the remaining side or rear yard to less than five feet.
- (5) Arbors and trellises. If a wall on a dwelling on an adjacent lot has any windows or doorways that have a sill lower than eight feet, measured from grade, facing the shared property line and located within three feet of that shared property line, the new arbor or trellis' setback shall be five feet from that shared lot line. This setback from that shared lot line is required at the location of the affected window(s) or doorway(s) and is required to extend along the width of those window(s) or doorway(s) and shall extend for a minimum of five feet in each direction from that window or doorway.
- (6) Flag poles which do not exceed 15 feet in height.
- (7) Open stairs, provided that the stairs do not reduce a side or rear yard to less than five feet.
- (8) Ramps and similar structures necessary to provide access for the handicapped.
- (9) Porticos, provided that they do not extend more than six feet from the main building wall, do not extend more than nine feet in length, which dimensions include any roof overhang, and provided further that they remain open.

(B) In any yard except a front yard:

- (1) Sandboxes, swings and other small items of children's play equipment.

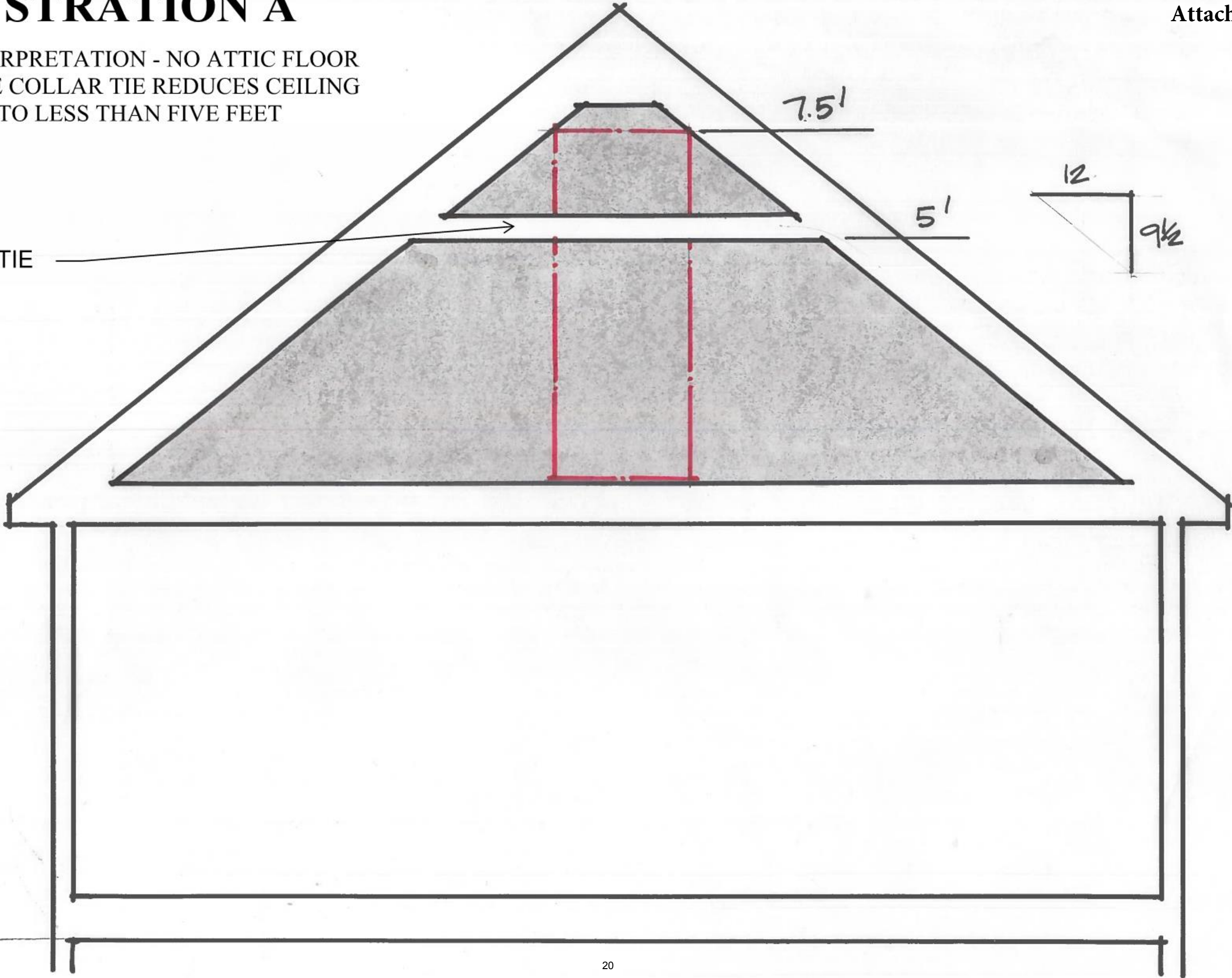
- (2) Clotheslines.
- (3) Open and closed fences which do not exceed six feet in height. If a wall on a dwelling on an adjacent lot has any windows or doorways that have a sill lower than six feet, measured from grade, facing the shared property line and located within three feet of that shared property line, the new fence shall not exceed three and a half feet in height along the width of those window(s) or doorway(s). If the fence has a setback of five feet or more from that shared lot line, it is permitted to be taller than three and a half feet but shall not exceed six feet in height. This setback from that shared lot line is required at the location of the affected window(s) or doorway(s) and is required to extend along the width of those window(s) or doorway(s) and shall extend for a minimum of five feet in each direction from that window or doorway.
- (4) Small sheds, doghouses, dollhouses and structures used for storage, provided:
  - (a) On land zoned R-20, R-12, R-8, R-5 or R-2-5 and used for single-family dwellings, such structures may not exceed 80 square feet in floor area in the aggregate and eight feet in height when measured at the structure's highest point.
  - (b) On land zoned and used for semi-detached or townhouse dwellings, such structures may only be placed in the rear yard at the rear property line, may not exceed 50 square feet of floor area in the aggregate and seven feet in height when measured at the structure's highest point.
  - (c) If a wall of a dwelling on an adjacent lot has any windows or doorways that have a sill lower than eight feet, measured from grade, facing the shared property line and located within three feet of that shared property line, the new small shed or structure used for storage's setback shall be five feet, including any roof overhang, from that shared lot line. This setback from that shared lot line is required at the location of the affected window(s) or doorway(s) and is required to extend along the width of those window(s) or doorway(s) and shall extend for a minimum of five feet in each direction from that window or doorway.
- (5) Freestanding air conditioning machinery, provided it can be demonstrated to the director that it will not exceed a noise level of 55 decibels (55 dB(A)) when measured at any property line of the lot, and provided it is placed in a location which has the least adverse impacts to adjoining lots of those locations available.

- (6) Open terraces and decks not over two feet above the average level of the adjoining ground and two feet above ground at any property line of the lot but not including a roofed-over terrace or porch.
- (7) Free-standing private garages to the rear of the main building in accordance with section 7-2505.
- (C) In the Old and Historic Alexandria and the Parker-Gray Districts, the requirement of sections 7-202(A)(1) and 7-202(B)(3) may be waived or modified by the board of architectural review where the board finds that a proposed fence would be architecturally appropriate and consistent with the character of the district.
- (D) In any residential zone a ground level covered open front porch is permitted to project a maximum of eight feet from the front building wall into the required front yard, or primary front yard if a corner lot, of a single-family, semi-detached, duplex or townhouse dwelling; provided that a special exception under section 11-1302 of this ordinance is approved.

# ILLUSTRATION A

CURRENT INTERPRETATION - NO ATTIC FLOOR  
AREA BECAUSE COLLAR TIE REDUCES CEILING  
HEIGHT TO LESS THAN FIVE FEET

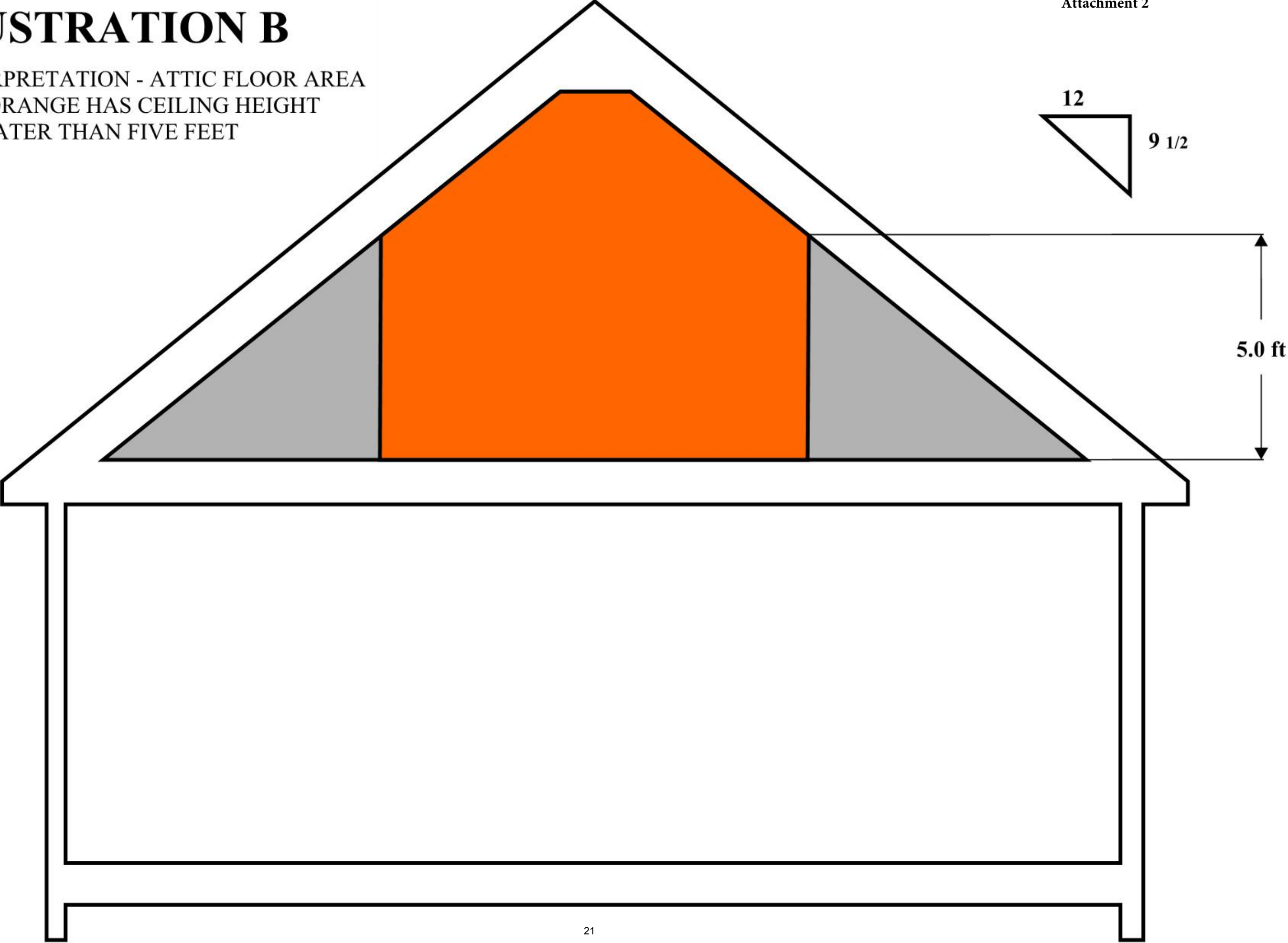
COLLAR TIE



# ILLUSTRATION B

Attachment 2

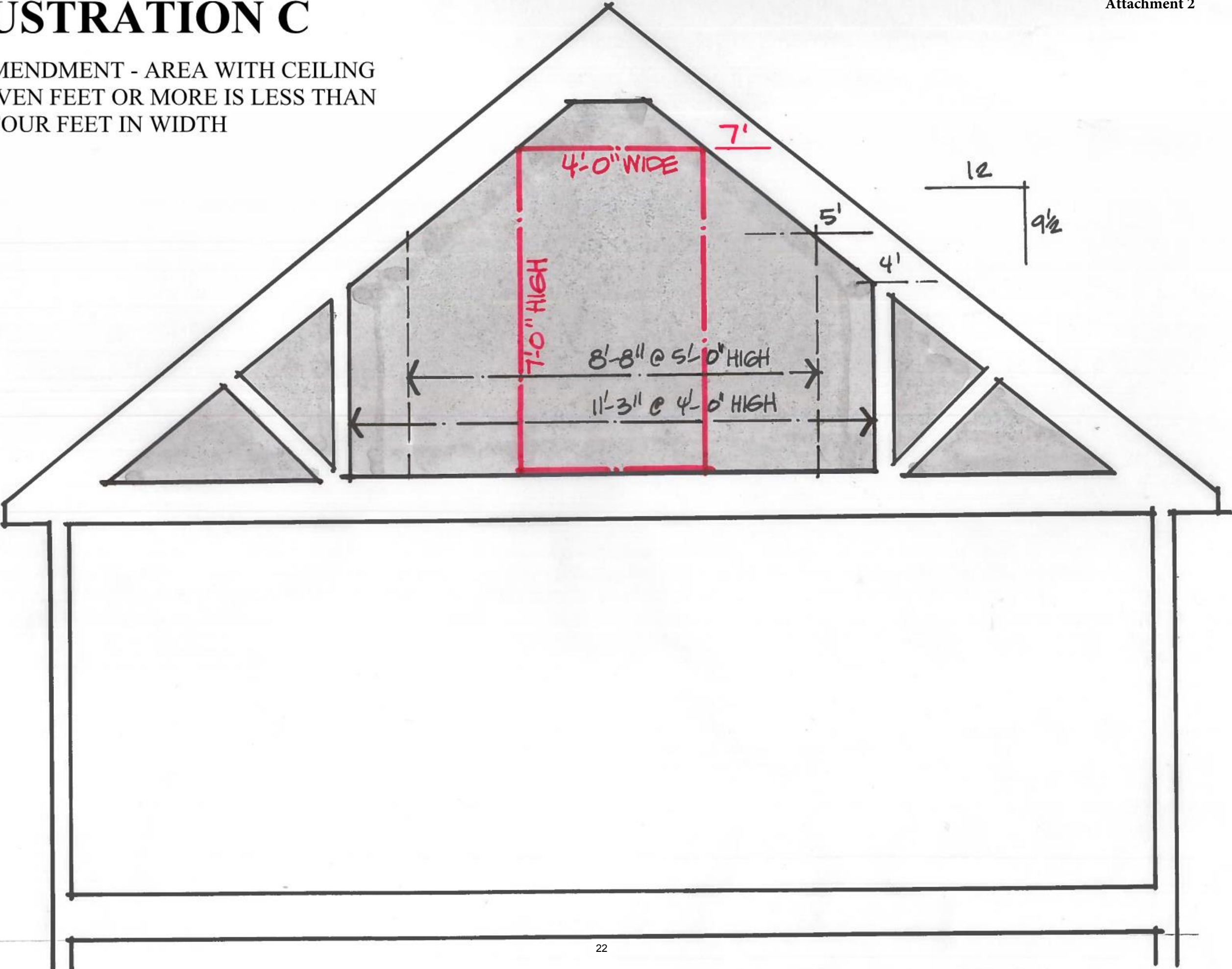
CURRENT INTERPRETATION - ATTIC FLOOR AREA  
SHOWN IN ORANGE HAS CEILING HEIGHT  
GREATER THAN FIVE FEET





# ILLUSTRATION C

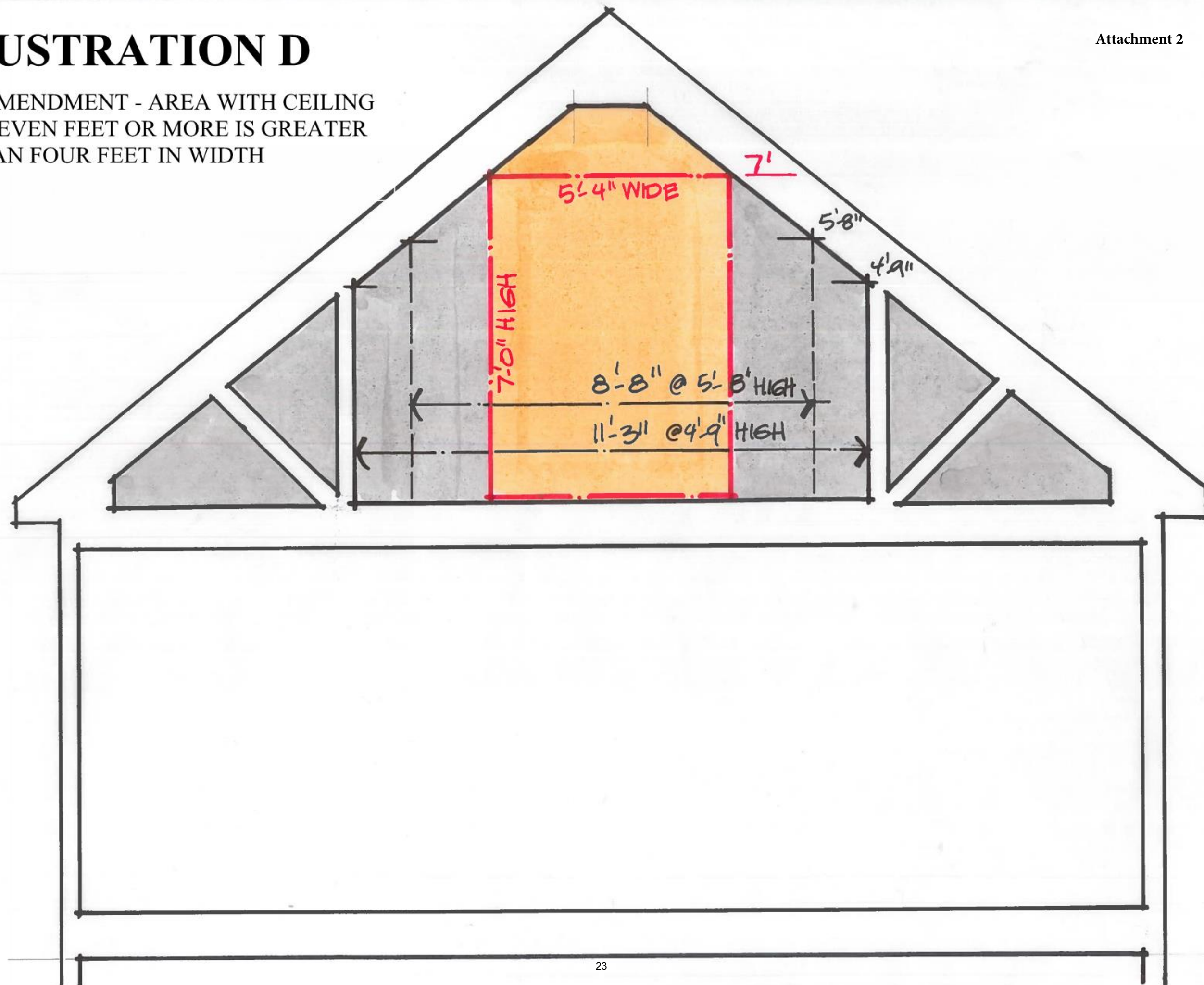
PROPOSED AMENDMENT - AREA WITH CEILING  
HEIGHT OF SEVEN FEET OR MORE IS LESS THAN  
FOUR FEET IN WIDTH



# ILLUSTRATION D

Attachment 2

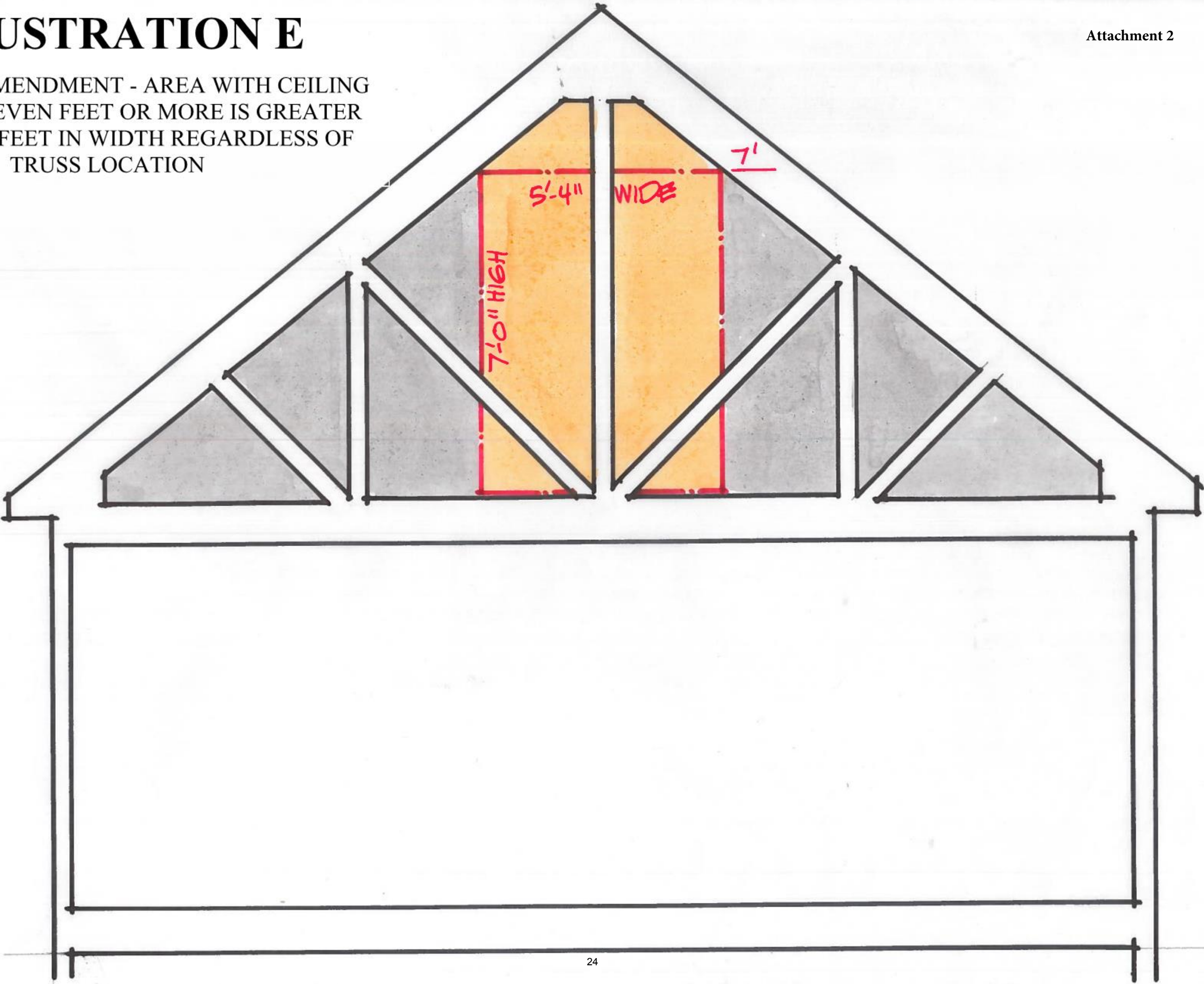
PROPOSED AMENDMENT - AREA WITH CEILING  
HEIGHT OF SEVEN FEET OR MORE IS GREATER  
THAN FOUR FEET IN WIDTH





# ILLUSTRATION E

PROPOSED AMENDMENT - AREA WITH CEILING  
HEIGHT OF SEVEN FEET OR MORE IS GREATER  
THAN FOUR FEET IN WIDTH REGARDLESS OF  
TRUSS LOCATION





## Floor Area Ratio Text Amendment --- Select Research Projects

Alexandria Memory Care					
Total GSF		54,558.00			
Existing Exclusions			Proposed Exclusions		
Stair	2,106.97		Stairs	2,126.97	
Mechanical	676.4		Mechanical	676.40	
Ceiling Height < 7' 6"	9,823.9	18%	Lavatories	3,700.00	7%
			Loading Dock	-	0%
Total	12,607.3		Total:	6,503.37	

King Street Hotel					
Total GSF		57,574.00			
Existing Exclusions			Proposed Exclusions		
Stair	2,723.00		Stairs	2,755.00	
Mechanical	710.00		Mechanical	710.00	
Ceiling Height < 7' 6"	6,850.00	12%	Lavatories	5,757.00	10%
			Loading Dock	1,120.00	2%
Total:	10283.00	18%	Total:	10,342.00	18%

National Science Foundation					
Total GSF		760,650.00			
Existing Exclusions			Proposed Exclusions		
Total Exclusion	(Stairs,		Existing Exclusion	(stairs,	
elevator, mechanical)	33,261.00	4%	elevator, mechanical)	33,261.00	4%
Ceiling Height < 7' 6"	-	0%	Lavatories (34)	1,700.00	0.2%
Total:			Loading Dock	1,168.00	0.2%
Total:	33261.00	4%	Total:	36,129.00	4.7%

Floor and Décor					
Total GSF		98,501.00			
Existing Exclusions			Proposed Exclusions		
Mechanical	627.00	1%	Mechanical	627.00	1%
Ceiling Height < 7' 6"	-	0%	Lavatories (2)	100.00	0.1%
			Loading Dock	1,480.00	1.5%
Total:	627.0	1%	Total:	2,207.00	2.2%

Potomac Yard Landbay I (20-wide Townhouse Typical)					
Total GSF		5,558.00			
Existing Exclusions			Proposed Exclusions		
Stair	325.00	6%	Stair	337.00	6.1%
Mechanical	37.0	1%	Mechanical	37.00	0.7%
			Areas under decks	27.00	0.5%
Total:	362.00	6.5%	Total:	401.00	7%

King Street Hotel					
Total GSF		74,058.00			
Existing Exclusions			Proposed Exclusions		
Stair / mechanical	2,723.00		Stairs	2,755.00	
Mechanical	710.0		Mechanical	710.00	
Ceiling Height < 7' 6"	6,850.0	9%	Lavatories	5,757.00	8%
			Loading Dock	1,120.00	2%
Total:	10283		Total:	10,342.00	

Craftmark Homes - Saint James Property (Townhomes)					
Total GSF		3,109.00			
Existing Exclusions			Proposed Exclusions		
Stair	109.00		Stair	115.00	4%
Mechanical	37.00	1%	Mechanical	37.00	1%
			Areas under decks	96.00	3%
Total:	146.00	5%	Total:	248.00	8%

Carr Hotel (Hotel Indigo)					
Total GSF		74,058.00			
Existing Exclusions			Proposed Exclusions		
Stair	3,170.00		Stairs	3,170.00	
Mechanical	2,870.00		Mechanical	2,870.00	
Ceiling Height < 7' 6"	8,203.00	11%	Lavatories	6,200.00	8%
			Loading Dock	630.00	1%
Total:	14,243.00	19%	Total:	12,870.00	17%

525 Montgomery Street - (ABC/Giant) Edens Development							
Total GSF		305,106.00					
Existing Exclusions				Proposed Exclusions			
Total Exclusion & elevators mechanical	Stairs	6,306.00	2%	Existing Exclusion (stairs, elevator, mechanical)	18,167.00	6%	
		11,861.00	4%	Lavatories (232 units)	11,600.00	3.8%	
Total:				Loading Dock	1,080.00	0.4%	
Total:		18,167.00	6%	Total:	30,847.00	10.1%	

## Attachment 4

LOCATION	MAX HEIGHT PERMITTED	HEIGHT CONSTRUCTED	FLOOR AREA PERMITTED	FLOOR AREA CONSTRUCTED	GROSS FLOOR AREA	CURRENT ATTIC EXCLUSION	PROPOSED ATTIC EXCLUSION	CURRENT EXCLUSION (%)	PROPOSED EXCLUSION (%)
RUSSELL RD	26.8	26.8	5468	3643	7605	1716	1840	23%	24%
N FLOYD ST	25	23.7	5442	5502	11980	2603	2603	22%	22%
TRINITY DR	28.3	28	6735	5796	10641	2287	2488	21%	23%
COCKRELL AVE	25	24.9	2800	2795	5956	1492	1492	25%	25%
KEY DR	25	24.8	6115	5651	9831	2047	2047	21%	21%
LLOYDS LN	32.4	27.8	11668	6533	9071	1563	1563	17%	17%
CAMBRIDGE RD	25	24.7	4050	3666	7620	2191	2249	29%	30%
E BRADDOCK RD	25.2	23.9	2926	2613	3823	1351	1351	35%	35%
E CLIFF ST	25	24.1	4492	3290	6431	2306	2351	36%	37%
E RAYMOND AVE	26.3	26.1	2362.5	2308	5150	1206	1206	23%	23%
DUKE ST	25	24.6	2953	2906	5353	1557	1557	29%	29%
COMMONWEALTH AVE	25	24.5	3375	3068	5139	1325	1325	26%	26%
JANNEYS LA	25	24.3	7156	5691	10102	2103	3110	21%	31%
W TIMBER BRANCH PKWY	25.2	24.8	4195	3589	7006	1382	1727	20%	25%
SYLVAN CT	30.7	30.7	3603	3041	6126	1528	1528	25%	25%
RIDGE ROAD DR	29.2	27.2	6505	4962	8621	2050	2050	24%	24%
W WYATT AVE	25	25	2250	2124	3655	1130	1130	31%	31%
RUFFNER RD	25	24.9	4578	4570	9287	2450	2450	26%	26%
FORREST ST	25.8	25.8	3442	3343	7076	1379	1596	19%	23%
N EARLY ST	25	22.4	3786	2556	4354	1236	1236	28%	28%
FORREST ST	25.6	25.5	3456	3454	7699	1245	1607	16%	21%
IVOR LN	25	18	10076	6933	9967	2798	4559	28%	46%

## FAR Calculations - Select Jursidictions

TOPICS	Alexandria	DC	Richmond, VA	Arlington County, VA	Falls Church, VA	Fredricksburg, VA	Fairfax County, VA
Population	155,810	681,170	223,170	230,050	14,014	28,297	1,138,652
Uses FAR for Commercial	Yes	N/A	Yes	Yes	no; see below	yes	yes
Uses FAR for Residential	Yes	Yes	Yes	No. Lot Coverage	no; by setback and height	no	no; regulated by setback and height
Are <b>stairs</b> included in FAR?	Excluded	Included.	Included.	Included.	N/A	Included at each floor. Elevator shafts are included.	Included
Are <b>bathrooms</b> included in FAR for commercial buildings?	Exclusion proposed	Included.	Included.	Included.	N/A	Included	Included
Are individual <b>mechanical units'</b> footprint included in FAR?	Excluded	Vent shafts and pipe chases above the ground floor are not included.	Included.	Included.	N/A	Included	Included
Are <b>mechanical rooms</b> included in FAR?	Excluded	Yes, if height is 6'6" or greater	Areas for housing major mechnaical equipment which serves the building as a whole or major portion thereof, but not including utility areas within dwelling units.	Included.	N/A	Included	Included
Are <b>attics</b> included in FAR?	Excluded if less than 7' in height	Yes, whether there is a floor or not. 6'6" or more in height.	Included.	Included.	N/A	Included	Included; whether there is a floor or not. 6'6" or more in height
Are <b>basements</b> included in FAR?	Excluded	Included, but cellars are not included.	Included.	Excluded.	N/A	Included.	excluded
Are <b>awnings or other architectural features</b> included in FAR?	Exclusion proposed	Not included as long as they do not project more than 6 feet out.	Not included.	Not included. Not within exterior walls.	N/A	"Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above."	Included
Are <b>second story porches</b> included in FAR?	Included	Exterior balconies are not included in FAR if they do not project more than 6 feet from the exterior wall	Open exterior balconies and porches, and other unenclosed areas are not included. If enclosed then they are included.	Not included.	N/A	"Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above."	N/A
Is <b>eave overhang</b> included in FAR?	Excluded	TBD	Not included.	Not included.	N/A	"Areas of the building not provided with surrounding walls shall be included in the building area if such areas are included within the horizontal projection of the roof or floor above."	Included
Are <b>parking garages</b> included in FAR?	Some. Excluded per Sec 7-2500	The first floor or basement area used for parking or recreation spaces (no more than 50% have columns, piers, ect or similarly enclosed.)	Garages, carports or other areas used for parking are excluded	Excluded	N/A	Excluded	Excluded
Are <b>porches</b> included in FAR?	Some. Excluded per Sec 7-2500	TBD	Open exterior balconies and porches, and other unenclosed areas are excluded. Uncovered terraces, patios and porches are excluded.	Included	N/A	N/A	N/A
Other Information	Ramps on the ground floor leading down to lower parking levels are excluded. The groos floor area of a lodging use dedicated to function rooms, exhibit space, commercial adjuncts and any other use not considered guest room or guest service area shall be considered non-residential floor area. Building Lot area: Excludes cornices/eaves, ornamental structural features, awnings, porch, deck, door, uncovered stairs/landings, and wheel chair ramps, chimneys.  Areas for common special purpose use by occupants of the premises, including laundries, recreation areas, sitting areas and libraires in buildings.  Storage space equal to 50% of the retail gross floor area provided on the first floor may be provided in the basement and it shall not be required to be counted as floor area subject to FAR limitations.  Bulk and mass is regulated within the commercial districts by setback and height restrictions. Above grade parking garages are discouraged due to the maximum height of a building as specified with a Special Exception (SUP). Zoning Administrator indicated that the height maximum disincentivizes a developer from building above grade non-habitable space in order to maximize their profitable commercial and residential spaces.  Vent shafts and interior courts are not included in FAR.  FAR is calculated by dividing the total gross square footage by the total square footage of the lot (not after subtracting out the net).						