

Affordable Dwelling Unit (ADU) Program Design Book

The Design Book is provided to give guidance and offer flexibility to builders. Section 1 outlines acceptable design standards and Section 2 provides flexibility in design that can be submitted to the Zoning Administrator for review.

Applicability & Purpose

The intent of this Design Book is to provide clarity and flexibility in the design and construction of ADUs and to encourage innovative designs that achieve the County's affordable housing goals, while satisfying the requirements of the Zoning Ordinance. Chapter 1450.03 of the Loudoun County Codified Ordinances authorizes the Affordable Dwelling Unit Advisory Board (ADUAB) to *"approve general specifications for prototypical single-family detached, single-family attached and multifamily affordable dwelling units"*. It states further that *"design and construction specifications shall be revised and approved when necessary by the ADUAB and to be structured so that affordable dwelling units offered for sale shall be affordable"* to the targeted households administered to in this program. Section 7-104(C) of the Revised 1993 Loudoun County Zoning Ordinance (Zoning Ordinance) requires that ADUs *"be of a building type and of an architectural style compatible with residential units permitted within the zoning district in which they are located and interspersed among market rate units in the proposed development."* Conformance with this requirement is the responsibility of the Zoning Administrator.

This Design Book has been developed to provide a clear and consistent framework for the design, construction and approval of ADUs and ADU projects in the County. The framework reflects two pathways to approval based on the following objectives:

1. Establish clear design standards and specifications under which ADUs and ADU projects shall be approvable.
2. Establish an approval process that allows greater flexibility for ADUs and ADU projects that meet the intent of the Ordinance through creative and innovative design.

Accordingly, this Design Book is divided into two sections:

- **Section 1, ADU Design Standards and Specifications**, contains minimally acceptable design and construction standards that shall be used to ensure that the ADUs are of a building type and of an architectural style that are compatible with permitted residential units and interspersed among market rate units, as required by Section 7-104 (c) of the Zoning Ordinance. The specifications also establish minimum square footages and interior standards.
 - **Section 2, Guidelines for Alternative Compatibility**, recognizes that many ADU developments will face unique circumstances and that building and construction techniques and designs evolve over time. As such, Section 2 provides general design guidelines that allow flexibility in accomplishing the objectives of Article 7, subject to approval by the Zoning Administrator, with input from ADUAB as requested. The design guidelines in Section 2 are to be referenced in circumstances where builders and developers of ADU units cannot reasonably comply with the Section 1 specifications or where builders
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and developers choose to present unique, innovative, and attractive alternatives. These design guidelines, while general enough to allow for unique design elements and changing housing types, are intended to promote the design of ADUs that are consistent with surrounding market-rate housing units while ensuring affordable and quality design.

The Affordable Dwelling Unit Design Book will be reviewed by the ADUAB on an as-needed basis in coordination with the Department of Planning and Zoning, Zoning Administration Division and the Loudoun County Department of Family Services, and approved by the Board of Supervisors.

SECTION 1 – ADU DESIGN STANDARDS AND SPECIFICATIONS

Unit Type Definitions

For the purposes of design standards and specifications, the definitions in the Loudoun County Zoning Ordinance will determine the dwelling unit types. The design standards for single family attached dwellings stated herein are also applicable to “stacked multi-family dwellings”.

A. Site Planning Standards

Section 7-104(C) of the Loudoun County Zoning Ordinance requires that ADUs be “*interspersed among market rate units within the proposed development*”. ADUs should be an integral part of the overall design of the development. The intent of this is to ensure that affordable units are not grouped together and/or segregated from the market rate units by physical, natural, or environmental features. The following techniques are considered appropriate methods to achieve interspersed ADU developments:

1. ADUs shall be located in the multiple product types provided, exclusive of single family detached units.
2. ADUs in single-family attached developments should not abut one another except where two ADUs are designed to appear as one large single family attached market rate unit in the same row of townhouses and approved in accordance with Section 2 of the Design Book.
3. ADUs provided in single-family attached buildings shall comprise no more than one unit per building or 38 percent of the total number of units in that building whichever is greater. ADUs may be located directly across a street/travel way from each other or may back directly to each other across rear yards/common area as long as requirements B1, B2, B3 and C1 below are met.
4. ADUs provided in multi-family buildings shall comprise no more than 38 percent of the total number of units on any given floor of the building. Units in any vertical configuration are acceptable.

All units that do not meet the above specifications shall be evaluated under the criteria in Section 2.

B. Size Standards – Single Family Attached and Detached Units

ADUs meeting **any one of the criteria** under each of the width, depth, and height categories below, respectively, are acceptable.

1. WIDTH GUIDELINES

- a. Single-family attached ADUs that are identical in width to market rate units are acceptable.
- b. Single-family attached ADUs of any width are acceptable as long as a project includes identically sized market rate units equaling at least 25% of the number of ADUs in the same section.
- c. Single-family attached ADUs with a minimum width of 70% of the average width of adjacent single family attached market-rate units (defined as the units immediately on either side of the ADU) are acceptable.
- d. Single-family detached ADUs with a minimum width of 75% of the average width of adjacent single family detached market-rate units (defined as the units immediately on either side of the ADU) are acceptable.

2. DEPTH GUIDELINES

- a. Single-family attached ADUs with depths along the entire rear facade equal to market rate units are acceptable.
- b. Single-family attached ADUs with depths along the entire rear façade varying by up to 15% are acceptable if other units in a stick of townhomes are staggered.
- c. Single-family detached ADUs with a minimum depth of 75% of the average width of adjacent single family detached market-rate units (defined as the units immediately on either side of the ADU) are acceptable.

3. HEIGHT GUIDELINES

- a. Single-family attached ADUs with heights identical to market rate units are acceptable.
- b. Single-family attached ADUs with heights that are at least 90% the heights of market rate units are acceptable when heights of market rate units in the same stick of townhomes are staggered vertically.

- c. Single-family detached ADUs with the same number of stories as market rate units are acceptable.

C. Exterior Architectural Standards

1. ADUs with front façade construction materials that are identical to those used in adjacent market rate units are acceptable Or ADUs that have front facade construction materials that are identical to any market rate facades are acceptable when at least 25% of market rate units have the same façade materials.
2. ADUs with varying roof pitches and orientation, gables, dormers, decorative elements, window arrangements, trims, materials, varying setbacks, etc. are acceptable when market rates units use the same design elements or where there is no readily identifiable pattern associated with ADUs.
3. ADUs with rear facades that are compatible wherein it is consistent yet to a higher standard with rear facades of market rate units are acceptable. ADUs must have a deck if they are standard on market rate units. Exterior doors must be provided on the same level(s) as provided in market rate units. Rear façade construction materials must be compatible with market rate rear façade construction materials.
4. Garages must be provided in all ADUs that are adjacent to market-rate units that have a garage.

D. Recommended Minimum Standards and Interior Specifications

1. Bedrooms - The minimum bedroom size for all ADUs is 80 square feet. In units with 2 or more bedrooms, one bedroom shall be a minimum of 110 square feet (typically the master bedroom). All bedroom sizes are exclusive of closets, which shall be provided with each bedroom. Doors in the bedroom shall be located to allow for a minimum of a full size bed in one bedroom and twin size beds in any other bedrooms. Doors must be able to be fully opened without obstruction.
2. Bathrooms - A bathroom is to be no further than one level above or below each bedroom. Units with 4 or more bedrooms shall provide a minimum of 2 full bathrooms. A bathtub shall be provided in at least one bathroom in each unit. If the unit has only one bathroom, a handicap-accessible bath is acceptable.
3. Energy efficiency and conservation features that are standard in market rate units are acceptable.
4. All ADU kitchens shall have a minimum 21" wide sink (actual bowl size) and the following appliances;

- a. Frost free refrigerator of the minimum size shown below;
 - i. 0 to 1 bedroom units – 12 cubic feet (cf)
 - ii. 2 bedroom units – 14 cf.
 - iii. 3 bedroom units – 15 cf.
 - iv. 4 or more bedroom units – 18 cf.
 - b. 30” wide range minimum w/ exhaust hood (hood to have exhaust termination similar to market rate units (i.e. to interior or exterior)).
 - c. Dishwasher
 - d. Garbage disposal
5. Washer/dryer shall be provided when they are standard in market rate units. Plumbing rough-ins for washer/dryers are required when provided in market rate units.
 6. All carpeting should meet minimum Federal Housing Administration (FHA) specifications
 7. Mechanical systems shall be sized and a duct rough-in provided to accommodate a finished basement where applicable.
 8. When hose bibs are standard on market rate units, they shall also be provided on ADUs in a similar location.
 9. All closets are to have a door. Closets are to have a minimum depth of two feet.
 10. All ADUs shall include a central HVAC system. Gas is to be provided as the primary heat source in ADUs where it is provided in the market rate units. Gas may also be used as the back-up fuel with dual fuel heat pumps. Electrical resistance is not permitted as the primary heat source. HVAC systems are to meet the current minimum efficiency recommendations of the US Department of Energy.

11. Water Heater Capacities:

a. Unit Size (# of bedrooms)	Minimum Capacity (gas or electric) in gallons
0 – 1	30
2	30
3	40
4	50
5 or more	60

b. Equivalent tankless water heaters are acceptable.

12. A Builder Landscaping Package shall be provided for all ADUs and shall be equivalent to the market rate units.

SECTION 2 – GUIDELINES FOR ALTERNATIVE COMPATIBILITY

(Not Meeting Section 1)

This section of the Design Book applies to projects that do not meet the design standards and specifications outlined in section 1 and that require Zoning Administrator review and approval. Section 7-104(C) of the Loudoun County Zoning Ordinance requires that ADUs be *“of a building type and of an architectural style compatible with the residential units permitted within the zoning district in which they are located”*. Opportunities for new and innovative techniques may be considered. The scale, massing, architectural design, and construction of ADUs all contribute to ensuring that these units will be compatible with the market rate units in the same development. Building materials, façade treatments, and dimensions should also be compatible with the market rate units so that ADUs cannot be easily identified within a development. Exceptions to the design specifications in section 1 may be approved by the Zoning Administrator on a case-by-case basis with input from ADUAB as requested. In these cases, elevation drawings, interior specifications and/or other appropriate information relevant to the proposed deviation from standards should be provided for review by the Zoning Administrator. The Zoning Administrator may request additional information as necessary to demonstrate conformance with this section.

A request for a zoning determination may be submitted to the Zoning Administrator. The Zoning Administrator may forward the zoning determination request to ADUAB for comment and recommendation prior to issuing the zoning determination. The Zoning Determination request may be presented for review at an appropriate ADUAB committee prior to ADUAB review and recommendation.

A. Site Planning Guidelines

In general, ADUs should be spread across an entire site to the extent practicable to avoid concentrations of ADUs in a single portion of a site.

1. Units should be distributed across residential landbays and within each landbay to the extent practicable
2. Units should be located such that typical development phasing would not result in a rapid influx of units.

3. Units can be adjacent to one another when they meet the compatibility guidelines in Subsection B below.

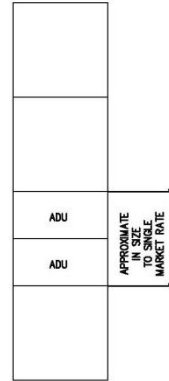
B. Unit Size and Architectural Guidelines

In general, ADUs should be sized and designed such that all exterior elevations are compatible with the market rate units within a development and be inconspicuous from adjacent market rate units. ADUs that have a starkly different elevation from adjacent market rate units are generally not acceptable unless other design elements allow the ADU to inconspicuously blend with the entire building façade. This blending is most successfully accomplished when a building façade has enough variability or consistency to avoid any sort of pattern or unique treatments for ADUs. For example, when every unit within a stick of townhomes uses different materials or colors, patterns become difficult to identify.

Treatments that may contribute to such blending include, but are not limited to:

- Staggering of units
- Building offsets
- Varying building materials
- Varying of colors
- Varying roof lines
- Incorporation of dormers
- Varying trims
- Varying window locations and sizes

ADUs can be adjacent to one another when they contain design elements that are compatible with the adjacent units. However, large concentrations of ADUs in a single area should be avoided. Below are acceptable examples of locating two ADUs adjacent to one another to mimic the size and scale of an adjacent market rate unit.



TOWNHOUSES SIDE BY SIDE



Other Acceptable Photos:



Despite being narrower, ADU units blend with adjacent units due to varying brick color, roof lines, and staggering of units.



Building offsets can be incorporated to help the ADUs to blend into the front façade.

EXAMPLE OF OFFSETS BLENDING UNIT WIDTHS



Smaller ADU units are mixed with two story units, a varying roof line, and wider units. Building materials and colors also vary to contribute to an inconspicuous blending of ADUs with market rate units.



Staggering, varied building materials, and architectural elements such as dormers and bay windows contribute to creating no readily identifiable pattern of market rate and ADU units.



ADUs using the same building materials and colors as adjacent market rate units are generally indistinguishable.

*Design Book
Board of Supervisors Approved
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ADUs that are blended into a façade with variations in color and building materials are indistinguishable.



ADUs incorporating the same building materials blend with adjacent market rate units.