

FLOOR AREA RATIO WORKSHEET

For Residential Structures in Single Family and Multi-Residence Districts

Floor area ratio, or FAR, regulates the amount of gross floor area that can be built on a lot. It is the ratio of gross floor area of building(s) on a lot to lot size, or:

$$\text{FAR} = \frac{\text{gross floor area of building(s) on a lot}}{\text{lot area}}$$

Newton’s Zoning Ordinance sets out FAR limits for residential structures and describes what elements of a building are included in gross floor area.

In February 2011, the Board of Aldermen adopted changes to the FAR regulations (Ord. Z-77) for residential structures in residential zoning districts. These new regulations became effective on October 15, 2011. The Board has requested that, for the twelve months immediately following the date at which the new regulations became effective, the Inspectional Services and Planning departments gather data on FAR calculations under the old and new regulations. The following worksheets and accompanying explanations describe what information is needed. Applicants should complete a total of four calculations: existing under old FAR, existing under new FAR, proposed under old FAR, proposed under new FAR.

Calculation Instructions

Notes for ALL calculations:

- **General:** Calculations should be made within the perimeter of outside walls of a building without deduction for hallways, stairs, closets, thickness of walls, columns, atria, open wells and other vertical open spaces or other features.
- **First/second story:** Exclude from the calculation bays or bay windows that are cantilevered, do not have foundations, and that occupy 10 percent or less of the wall area on which they are mounted.
- **Atria:** Atria, open wells, and other vertical open spaces are calculated by multiplying the floor level area of such space by a factor equal to the average height in feet divided by 10.

Notes to calculate FAR under pre-October 15th regulations ONLY:

1a: Bonus: The following FAR bonuses were available under the pre-October 15th FAR regulations:

Project Type	Lot Type	Bonus	
Addition to existing home that is 10 or more years old	New (created on or after Dec. 7 1953)	.05	
	Old (created before Dec. 7, 1953)	Conforms to old lot setback requirements	.05
		Conforms to new setbacks or does not extend further into setback	.07
Addition to recently built home (less than 10 years old)	Any	None	
Construction of new home	New	None	
	Old	Conforms to “new lot” setback and lot coverage requirements and “old lot” open space requirement	.05

Notes for new FAR calculations ONLY:

1b: Area above the second story: Include in the calculation for FAR any area that meets the following criteria:

- Lies below the area of a horizontal plane that is 5' above it and which touches the side walls and/or the underside of the roof rafters;
- Is at least 7' in any horizontal dimension as measured within the area having a wall height of at least 5' or more;
- Has a minimum ceiling height of 7' on at least 50 percent of its required floor area; AND
- Has a floor area of not less than 70 sq. ft. as measured within the floor area having a wall height of 5' or more.

2b: Porch: A porch is considered enclosed if it is enclosed for any portion of the year by impermeable materials such as glass. Porches are roofed structures with sides not more than 60% enclosed by impermeable walls and railings or solid walls no higher than 36" high from the finished floor; are attached to and accessible from the primary structure; and are not heated or air conditioned.

3b: Mass below first story: Mass below first story includes any cellar, crawl space, basement, or other area lying directly below a first story. The portion that is included in FAR is the LESSER OF:

- 50% of the floor area of mass below first story OR
- X/Y x floor area of mass below first story,

Where:

X= Sum of the width of those sections of exposed walls below the first story having an exterior height equal to or greater than 4' as measured from existing or proposed grade, whichever is lower, to the top of the subfloor of the first story

Y= Perimeter of exterior walls below first story

4b: Bonus: An FAR bonus of .02 is available for those seeking to build on old lots (lots created before December 7, 1953) if new construction is built to comply with "new lot" setback standards and that nonconformities with respect to open space or lot coverage are not created or increased.

FAR WORKSHEET – EXISTING

Prepared by: _____ Denise Staubach (calculations provided by Architect Malcolm MacKenzie) _____ (print)

_____ (signature) 9-18-2014 _____ (date)

FAR Calculations for Regulations Effective As Of October 15, 2011	
Inputs (square feet)	
1. First story	931
2. Attached garage	213
3. Second story	762
4. Atria, open wells, and other vertical spaces (if not counted in first/second story)	
5. Certain floor area above the second story ^{1b}	
6. Enclosed porches ^{2b}	
7. Mass below first story ^{3b}	
8. Detached garage	
9. Area above detached garages with a ceiling height of 7' or greater	
10. Other detached accessory buildings (one detached building up to 120 sq. ft. is exempt)	
FAR of Existing Structure(s)	
A. Total gross floor area (sum of rows 1-9 above)	1906
B. Lot size	4501
C. FAR = A/B	.42
Allowed FAR	
See attached table of Allowable FAR	.48
Bonus of .02 if eligible ^{4b}	
TOTAL Allowed FAR (add two rows above)	.48

FAR WORKSHEET – PROPOSED

Prepared by: _____ Denise Staubach (calculations provided by Architect Malcolm MacKenzie) _____ (print)

_____ (signature) 9-18-2014 (date)

FAR Calculations for Regulations Effective As Of October 15, 2011	
Inputs (square feet)	
1. First story	972
2. Attached garage	378
3. Second story	1097
4. Atria, open wells, and other vertical spaces (if not counted in first/second story)	
5. Certain floor area above the second story ^{1b}	
6. Enclosed porches ^{2b}	
7. Mass below first story ^{3b}	
8. Detached garage	
9. Area above detached garages with a ceiling height of 7' or greater	
10. Other detached accessory buildings (one detached building up to 120 sq. ft. is exempt)	
FAR of Proposed Structure(s)	
A. Total gross floor area (sum of rows 1-9 above)	2447
B. Lot size	4501
C. FAR = A/B	.54
Allowed FAR	
See attached table of Allowable FAR	.48
Bonus of .02 if eligible ^{4b}	
TOTAL Allowed FAR (add two rows above)	.48

TABLE OF ALLOWABLE FAR

One- and Two-Family Residences in Residential Districts

October 15, 2011

* Does not include .02 bonus if eligible

SR1		SR2		SR3	
Lot Size (sq. ft.)	Allowable FAR*	Lot Size (sq. ft.)	Allowable FAR*	Lot Size (sq. ft.)	Allowable FAR*
<= 5,333	0.46	<= 5,333	0.46	<= 7,217	0.48
5,334-6,000	0.45	5,334-6,000	0.45	7,218-7,652	0.47
6,001-6,666	0.44	6,001-6,666	0.44	7,653-8,086	0.46
6,667-7,151	0.43	6,667-7,294	0.43	8,087-8,521	0.45
7,152-7,454	0.42	7,295-7,882	0.42	8,522-8,956	0.44
7,455-7,757	0.41	7,883-8,470	0.41	8,957-9,391	0.43
7,758-8,060	0.40	8,471-9,058	0.40	9,392-9,826	0.42
8,061-8,363	0.39	9,059-9,647	0.39	9,827-10,833	0.41
8,364-8,666	0.38	9,648-10,500	0.38	10,834-12,499	0.40
8,667-8,969	0.37	10,501-11,500	0.37	12,500-14,166	0.39
8,970-9,272	0.36	11,501-12,500	0.36	14,167-21,250	0.38
9,273-9,575	0.35	12,501-13,500	0.35	21,251-23,750	0.37
9,576-9,878	0.34	13,501-14,500	0.34	23,751 and above	0.36
9,879-11,250	0.33	14,501 and above	0.33		
11,251-13,750	0.32				
13,751-15,833	0.31				
15,834-17,500	0.30				
17,501-19,166	0.29				
19,167-21,250	0.28				
21,251-23,750	0.27				
23,751 and above	0.26				

MR1		MR2/MR3	
Lot Size (sq. ft.)	Allowable FAR*	Lot Size (sq. ft.)	Allowable FAR*
<= 5,199	0.58	<= 5,199	0.58
5,200-5,599	0.57	5,200-5,599	0.57
5,600-5,999	0.56	5,600-5,999	0.56
6,000-6,399	0.55	6,000-6,399	0.55
6,400-6,799	0.54	6,400-6,799	0.54
6,800-7,294	0.53	6,800-10,250	0.53
7,295-7,882	0.52	10,251-10,750	0.52
7,883-8,470	0.51	10,751-11,250	0.51
8,471-9,058	0.50	11,251-11,750	0.50
9,059-9,647	0.49	11,751-12,250	0.49
9,648-15,500	0.48	12,251-12,750	0.48
15,501-16,500	0.47	12,751-13,250	0.47
16,501-17,500	0.46	13,251-13,750	0.46
17,501-18,500	0.45	13,751-14,250	0.45
18,501-19,500	0.44	14,251-14,750	0.44
19,501-20,500	0.43	14,751-15,500	0.43
20,501-21,500	0.42	15,501-16,500	0.42
21,501-22,500	0.41	16,501-17,500	0.41
22,501-23,500	0.40	17,501-18,500	0.40
23,501-24,500	0.39	18,501-19,500	0.39
24,501 and above	0.38	19,501 and above	0.38