Newton Zoning
1st Draft Overview

Build Out Analysis

02.25.19

Agenda

- Project Goals
- What is a Model?
- Results Overview
- District by District Discussion
- Take Home Material - Conformity Comparison Charts

Project Goals

Themes from the 2011 Report

- Better organize the Ordinance for ease of use
- Simplify and streamline the permitting and review processes
- Recognize that each village center and commercial corridor is unique
- Encourage mixed-use residential redevelopment in village centers
- Create "soft transitions" between village centers and residential neighborhoods
- Allow moderate, flexible growth on commercial corridors
- Rationalize and streamline parking regulations
- Protect neighborhood character and scale
- Create more diverse housing opportunities
- Institute a better process for managing change of religious and educational institutions
- Improve natural resource conservation and sustainability

Themes from the 2011 Report

- **In short…**
- **Create a Zoning Ordinance that preserves and enhances what we love about Newton while modernizing and advancing issues we care about like addressing climate change and ensuring housing diversity.**

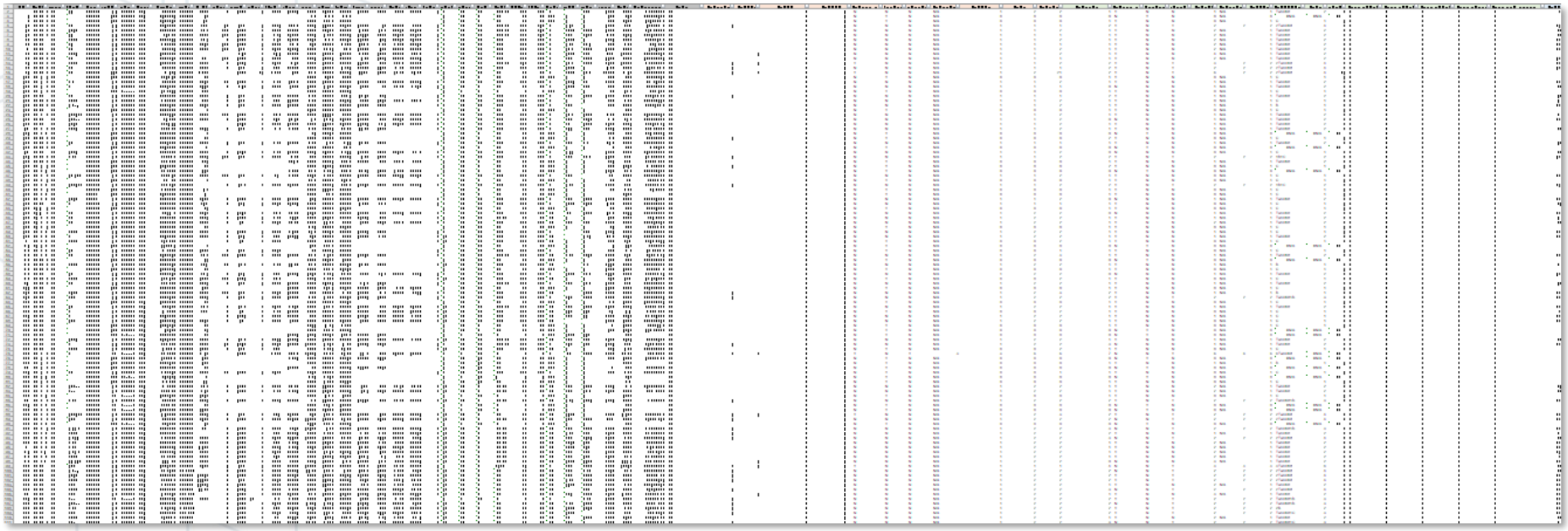
Project Goals

- **Rules that match the city as it is (increase conformity)**
- **Rules that reduce the city's vulnerability to speculative teardown/replacements of homes**
- **Rules that advance the City on several key issues like climate change and housing affordability and diversity**

What is a model?

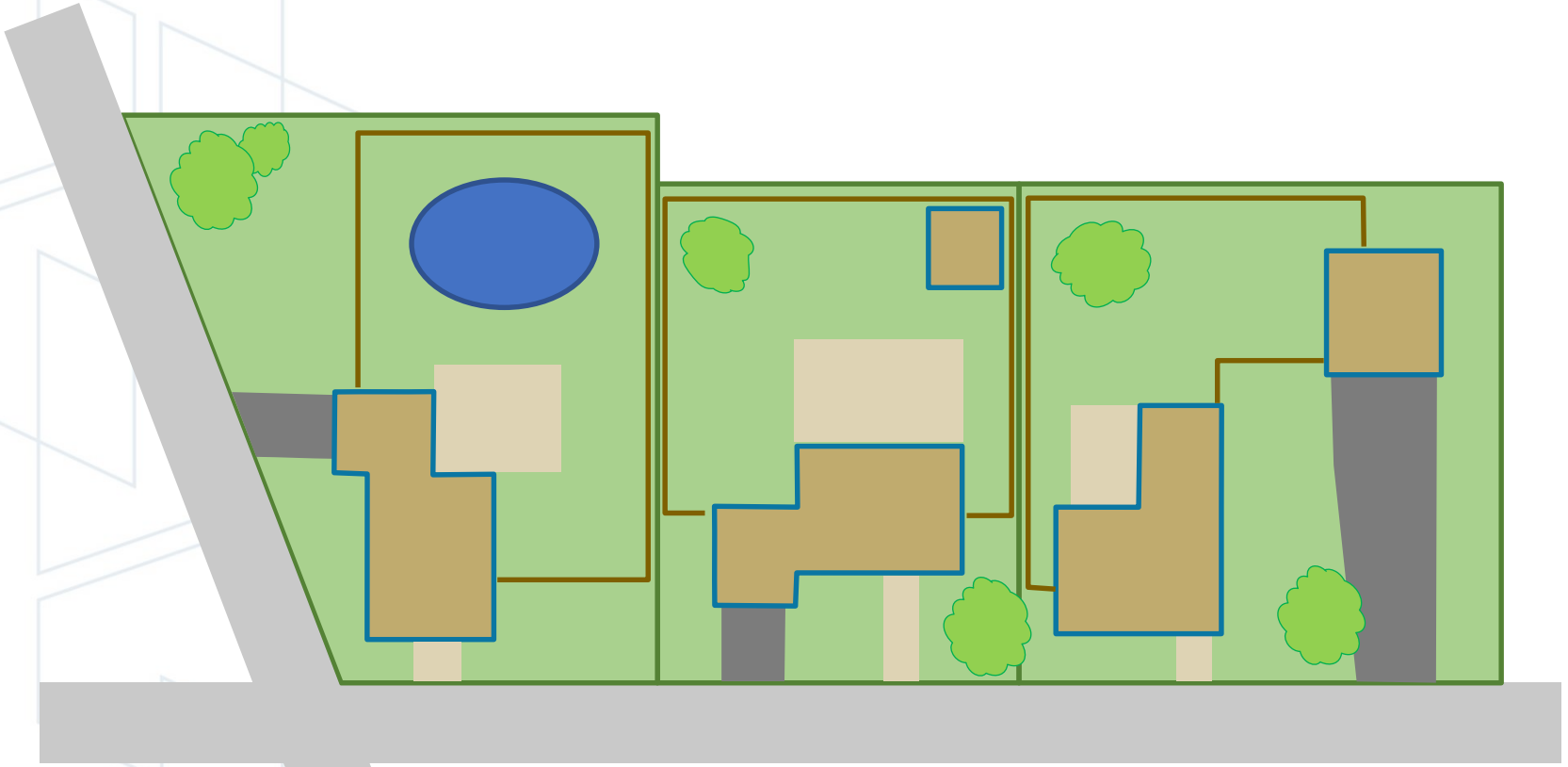
What is a build out analysis model?

A series of interrelated Excel tables



What is a build out analysis model?

Estimating the maximum possible build



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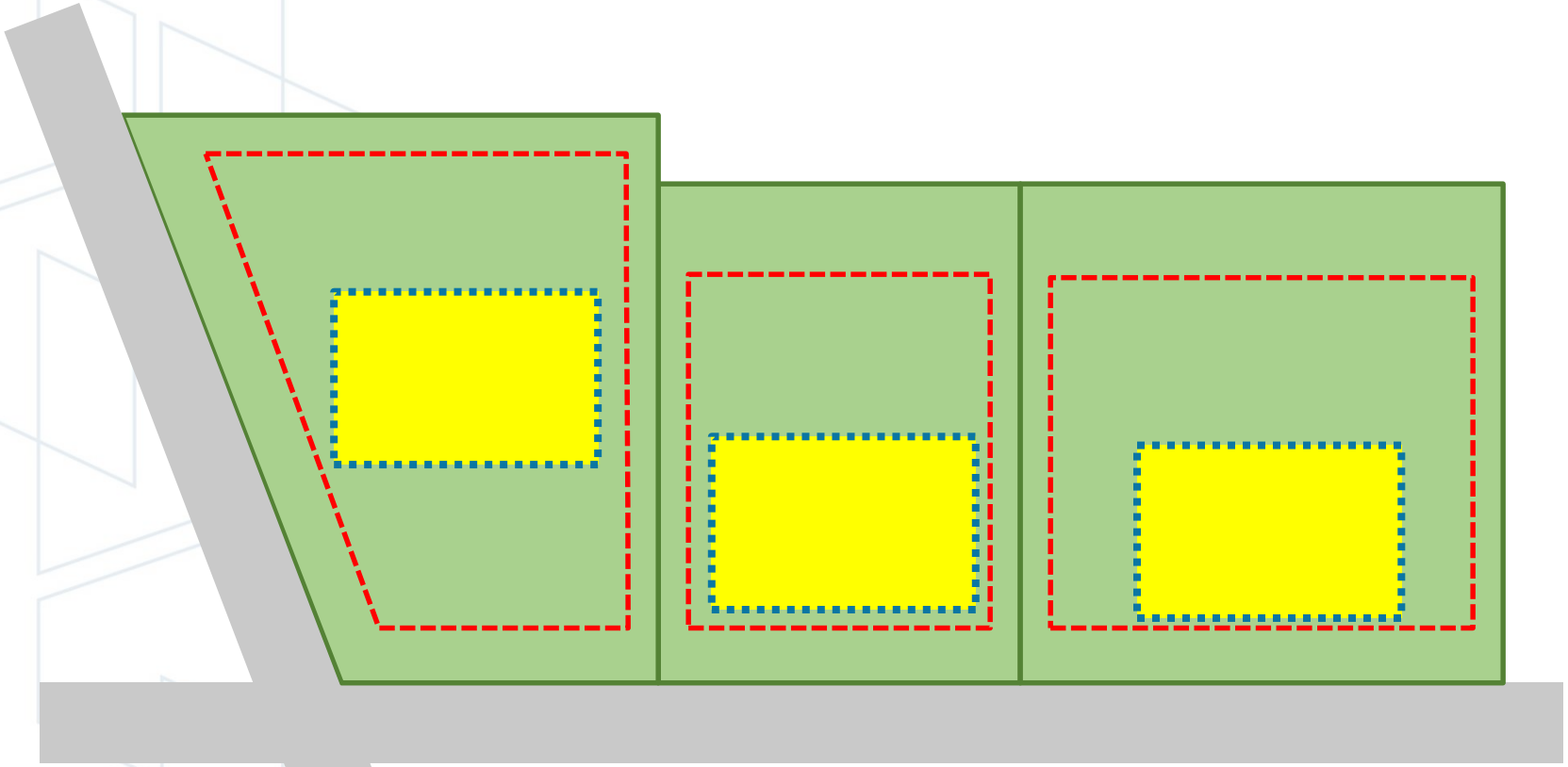

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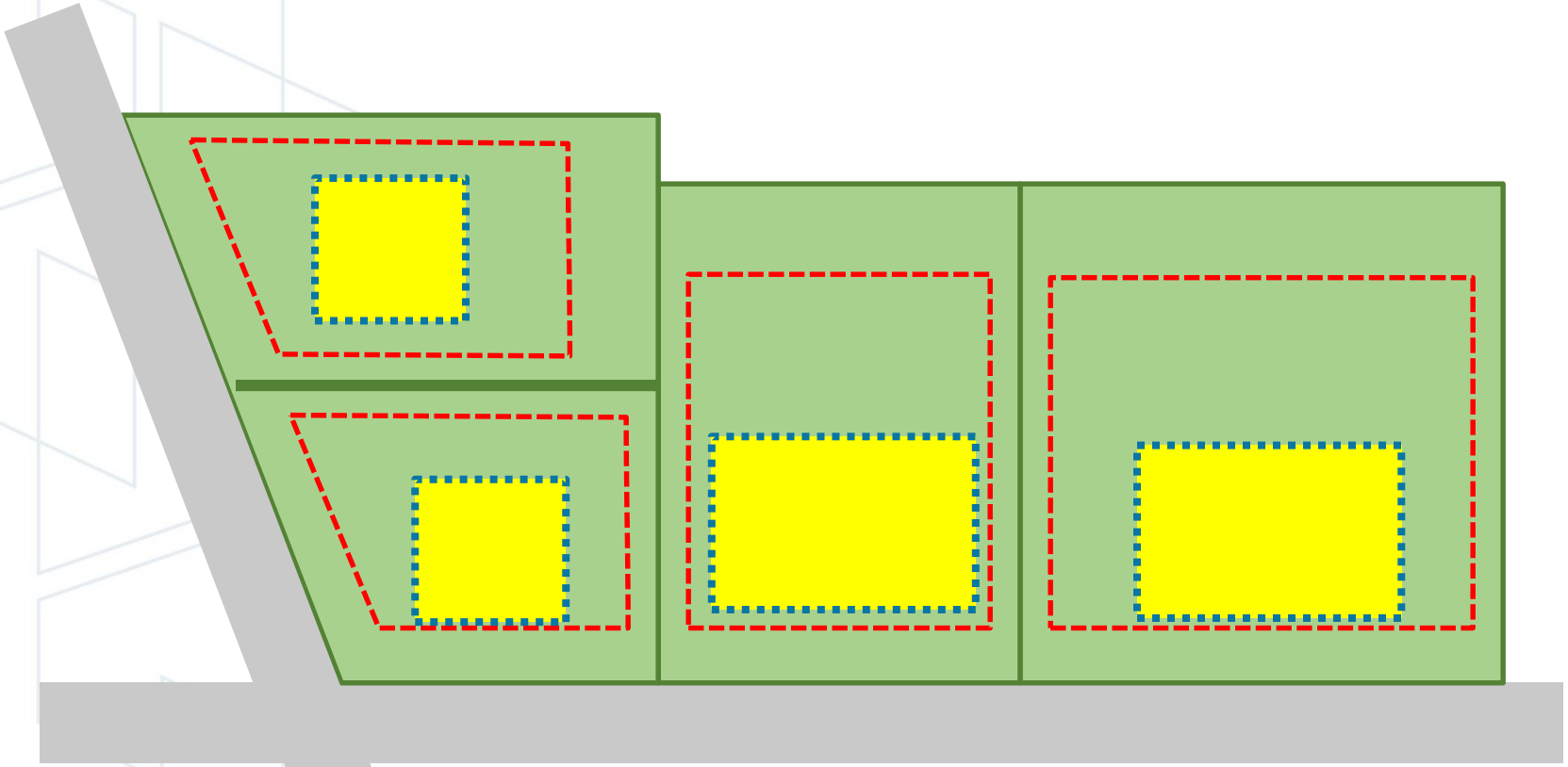

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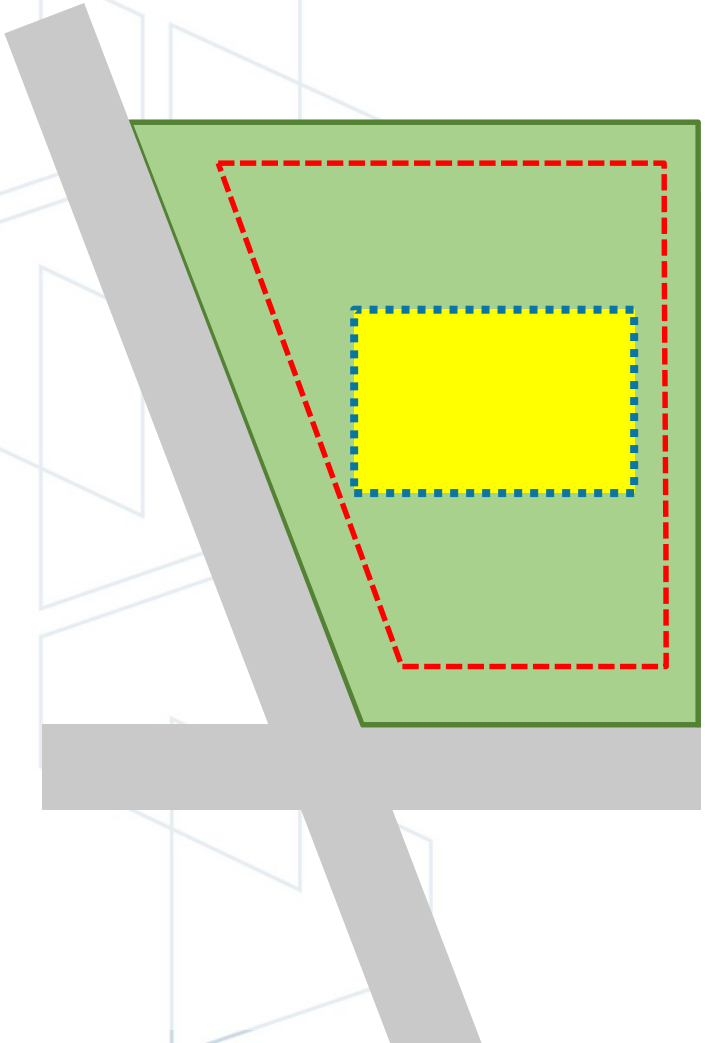

The model tests two different scenarios:

1) **Maximize the size of buildings (Bulk)**
2) **Maximize the number of lots (assume smallest possible buildings)**

What is a build out analysis model?

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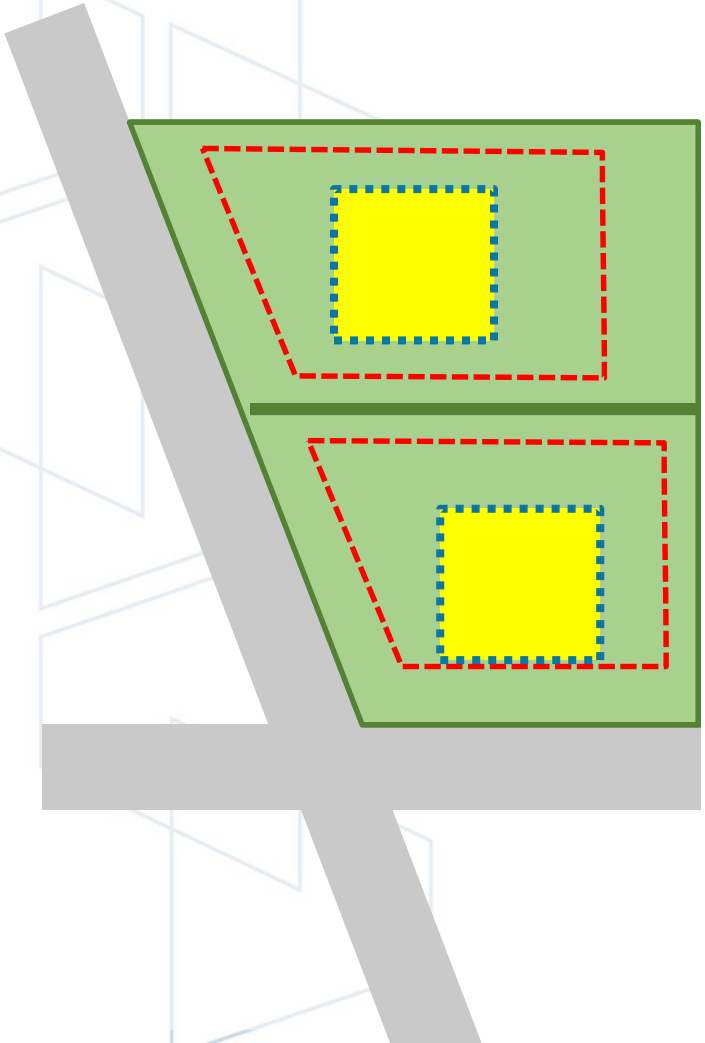

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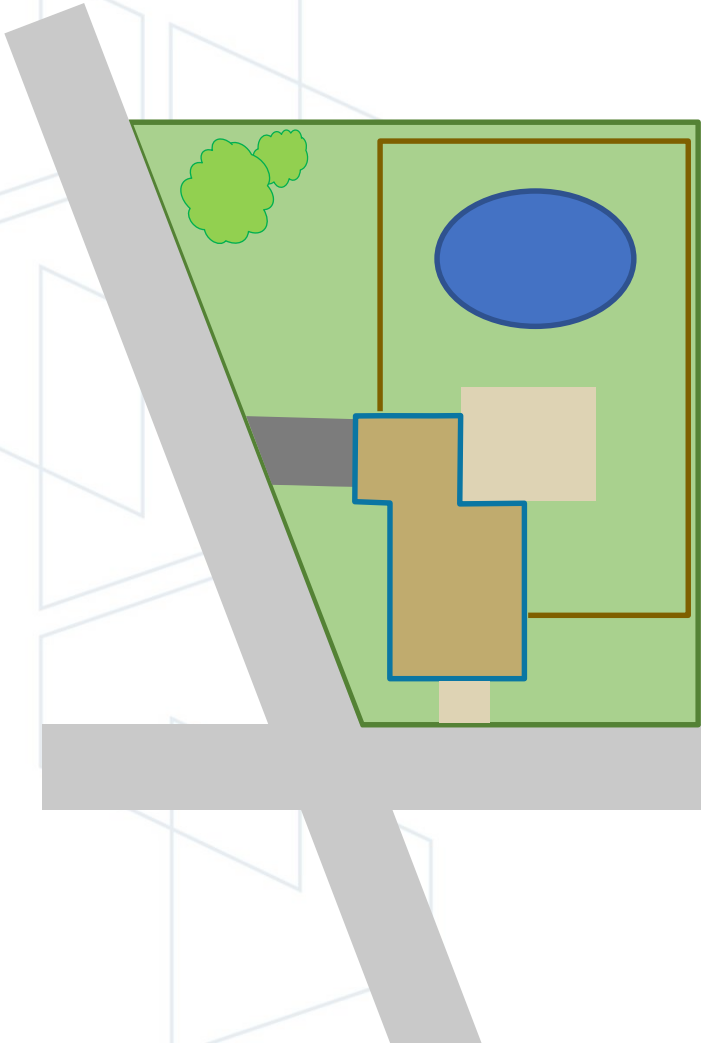
What is a build out analysis model?

The model cannot account for all possibilities



The model has to make assumptions about what theoretical property owner will choose to do.

It cannot account for:

- When/if an owner chooses to sell?
- What the “market,” the possible new buyers will most value?
  - More square footage in one house?
  - Two smaller houses?
  - A big private yard?
  - Small yard?
  - Deck? Pool? Shed?

What is a build out analysis model?

The model says what could be built

What could be built **NOT** What is likely to be built

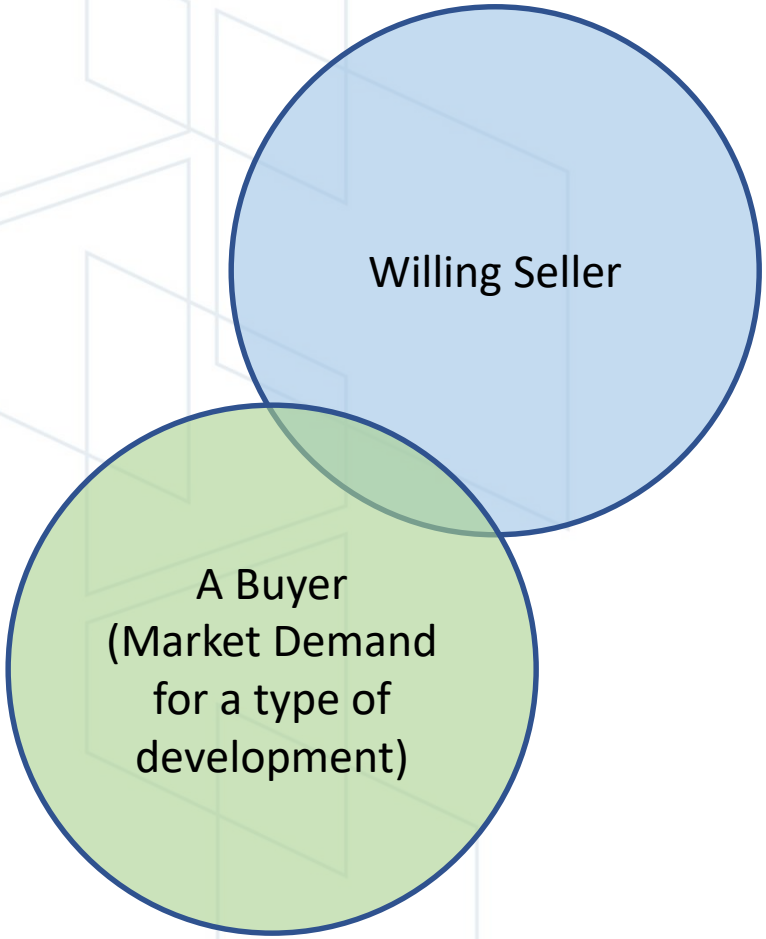
What is a build out analysis model?

The model cannot account for all possibilities

Willing Seller

What is a build out analysis model?

The model cannot account for all possibilities



- **Location**
  - **Proximity to shops**
  - **Commute options**
- **Single-family**
- **Multi-family**
- **Size of home**
- **Size of yard**
- **On site Amenities**
- **Need for renovations**
- **Possibility for sweat equity**
- **Personal Priorities (kitchen design, layout preference)**

What is a build out analysis model?

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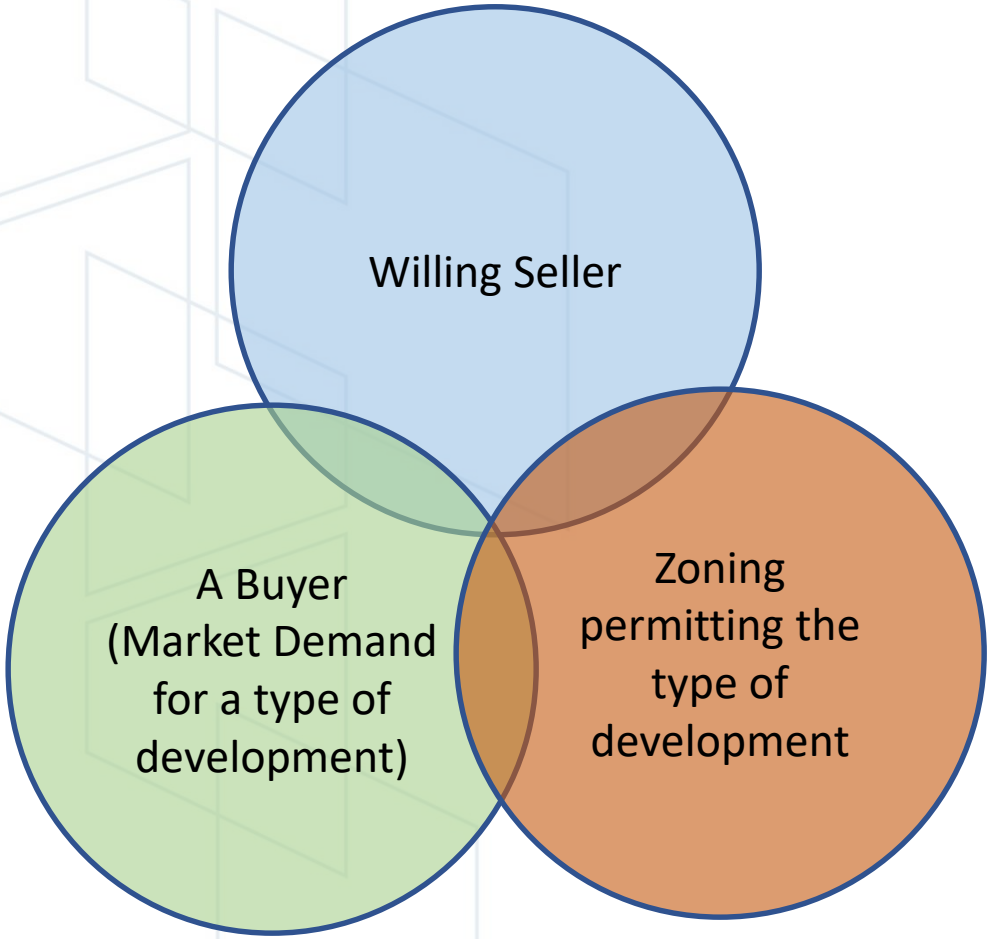

- **Does the zoning permit the project (expansion, modification, or new build)**
- **What costs are involved in getting permits and can the project return cover costs of construction and risk of disapproval or no buyer**

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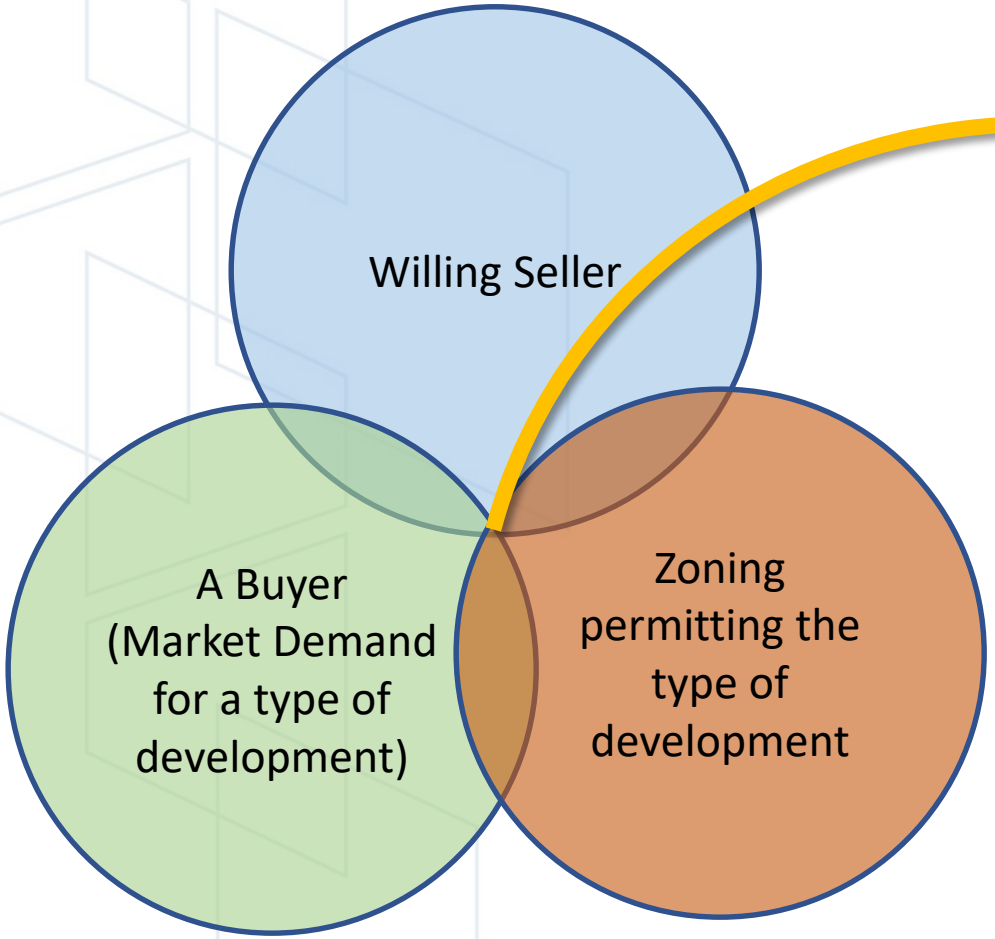

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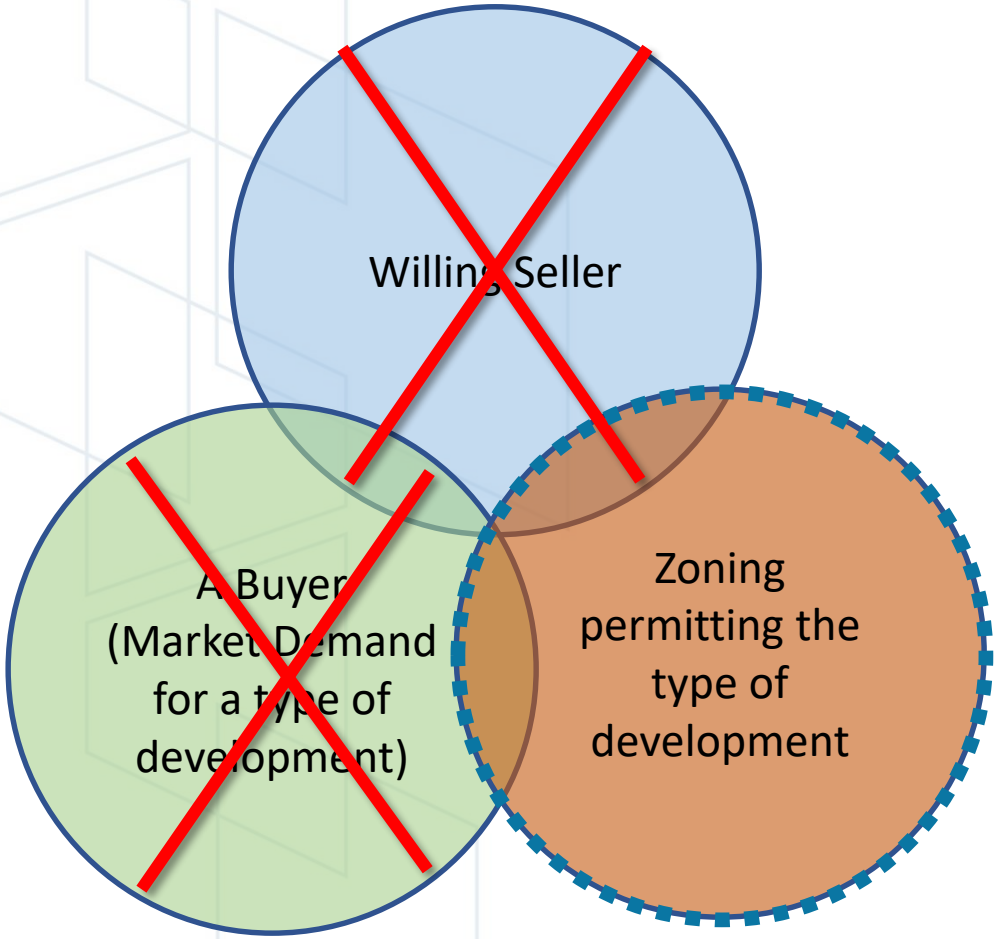


The model is only looking at the zoning

-

The model can only compare the possible options

-

It cannot predict

Assumptions in the Build Out Analysis

Underlying Assumptions

- By Right only – test for the projects that follow only the written rules

- Residence Districts only – the complexities of lot an ownership patterns and layers of additional factors mean the village districts require a different type of analysis

Assumptions in the Build Out Analysis

Maximum Possible Bulk (sq. footage)

- Model selects the largest building type that can fit on the lot using effective minimum lot sizes
- Model assumes the largest by right size of the building type would be built

Maximum Possible Lot Splits & Maximum Possible Lots

- Lot splits are calculated as the lesser of the number of lots that could fit by frontage or by area
- For maximum possible lots, the smallest effective minimum lot size is calculated for buildings just 15 ft. deep

Maximum Possible Units

- Model assumes the maximum number of units allowed are created in each building type
- In the R3 and N districts, any lot that can have multiple units is assumed to
- In the N district, it is assumed that no commercial is built

Speculative Teardown Vulnerability

- Speculative teardown is assumed to occur when:
  - Value of new construction exceeds 2.4x the current assessed value
  - A new unit can be at least 3800 s.f.
- New construction value is estimated at $600/s.f.

Results Overview

What did we learn

In the residence districts…the current ordinance allows bulkier buildings

- **Just over half of the square footage allowed by the current ordinance has been built**

So there could be 47% more square footage in neighborhoods

What did we learn

The October Draft needs adjustments to meet the goals for zoning redesign:

- **The October Draft allowed more bulk as compared to the Current Ordinance**
- **The October Draft resulted in higher teardown vulnerability than the Current Ordinance**

What did we learn

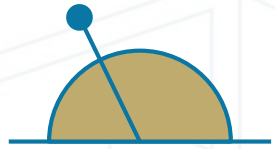
The October Draft needs adjustments to meet the goals for zoning redesign:

- The October Draft allowed more bulk as compared to the Current Ordinance
- The October Draft resulted in higher teardown vulnerability than the current ordinance

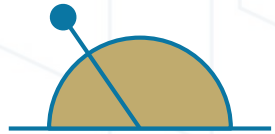
Small Adjustments make a big difference

Options to Adjust

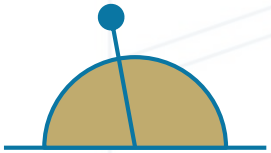
Min. Frontage



Min. Setbacks

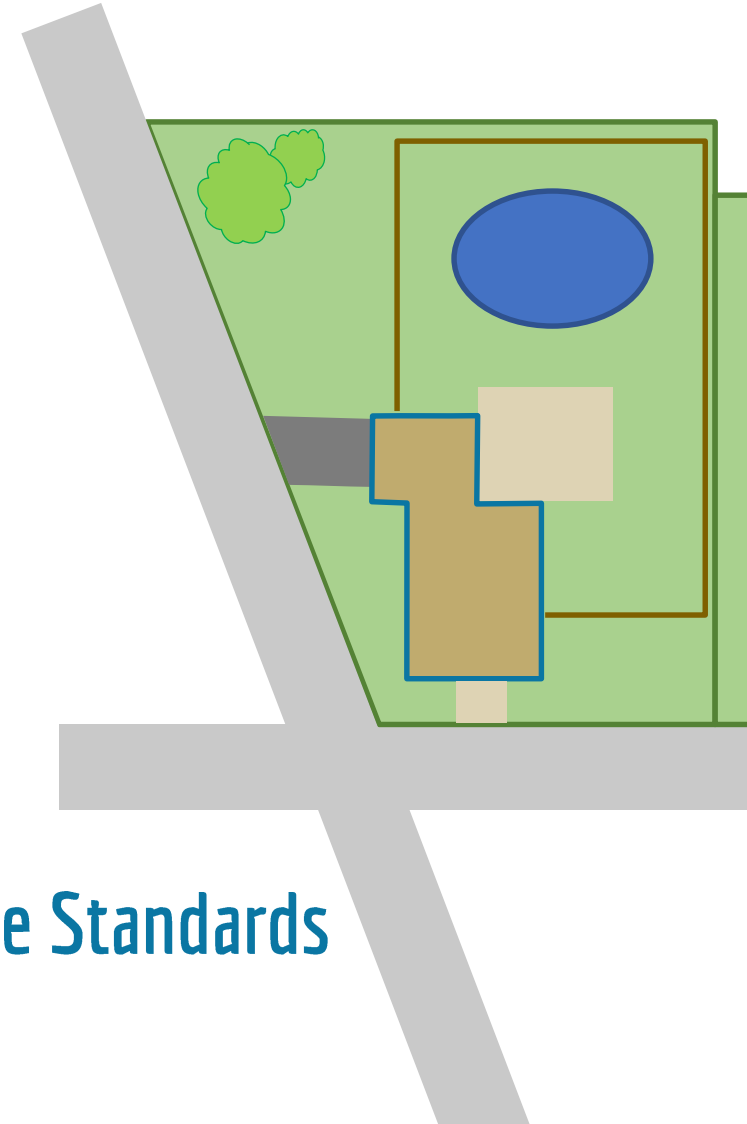


Max. Lot Coverage



Min. Lot Depth or Lot Size

Building Types & Building Type Standards



Options to Adjust

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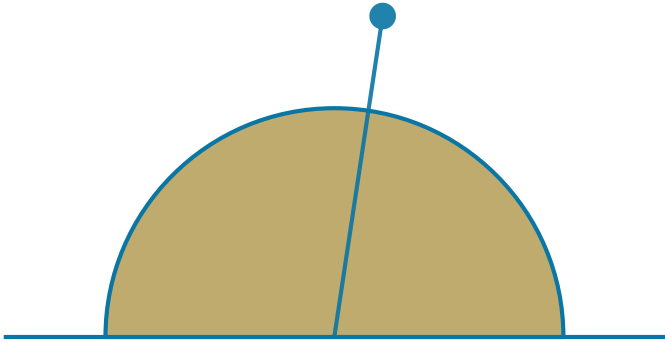
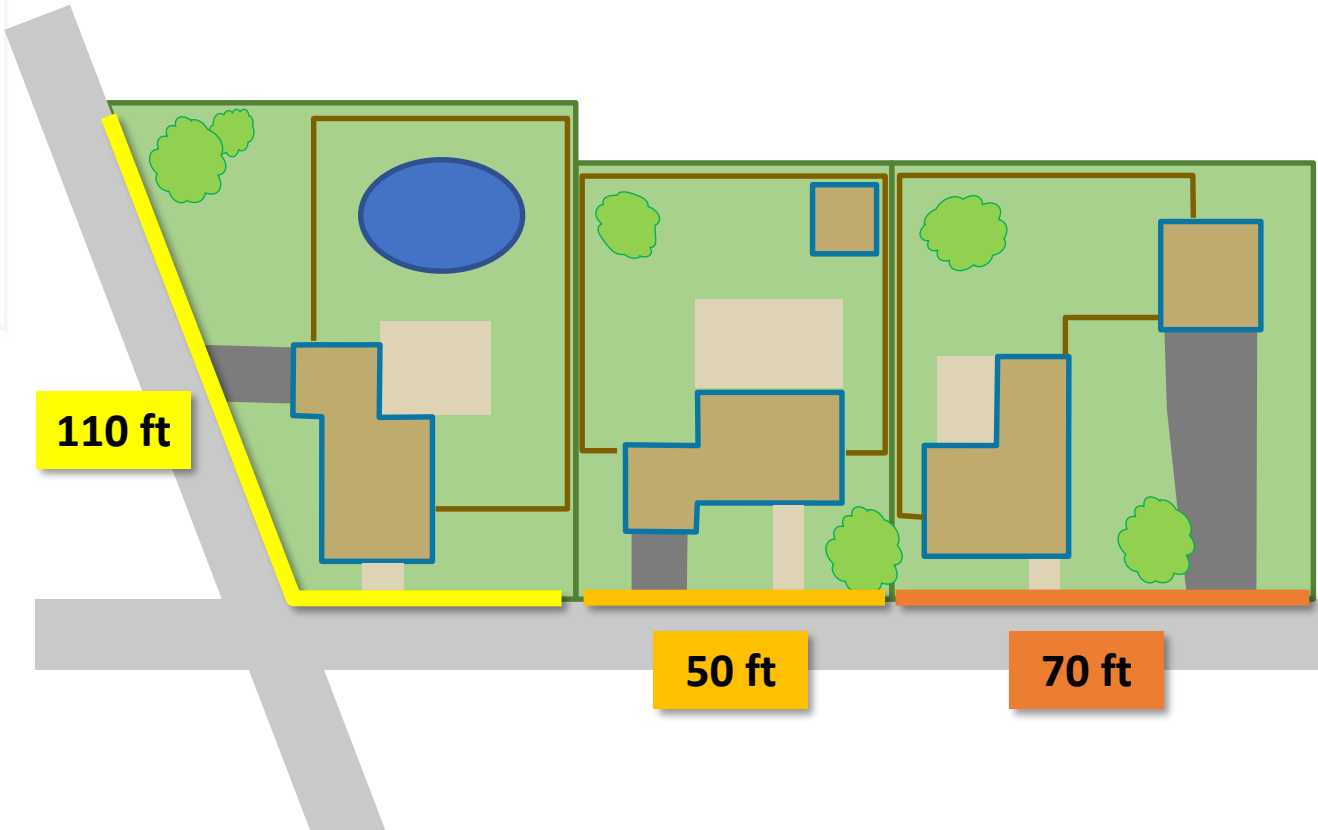


Options to Adjust

Minimum Frontage

Frontage is the width of the lot along the street

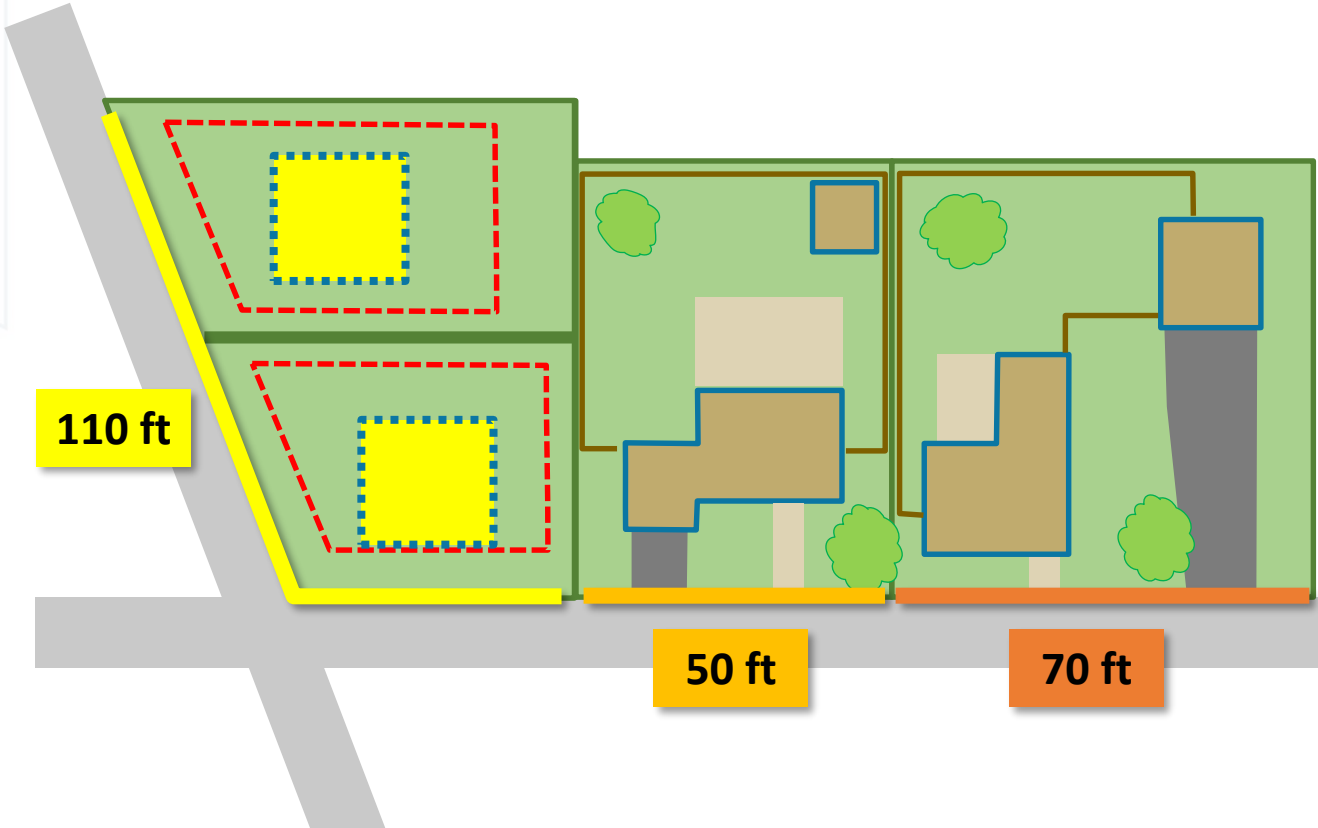


Options to Adjust

Minimum Frontage

If the min. is 50 ft…

- **All 3 lots are conforming**
- **Lot 1 can split**
- **Lot 3 cannot**

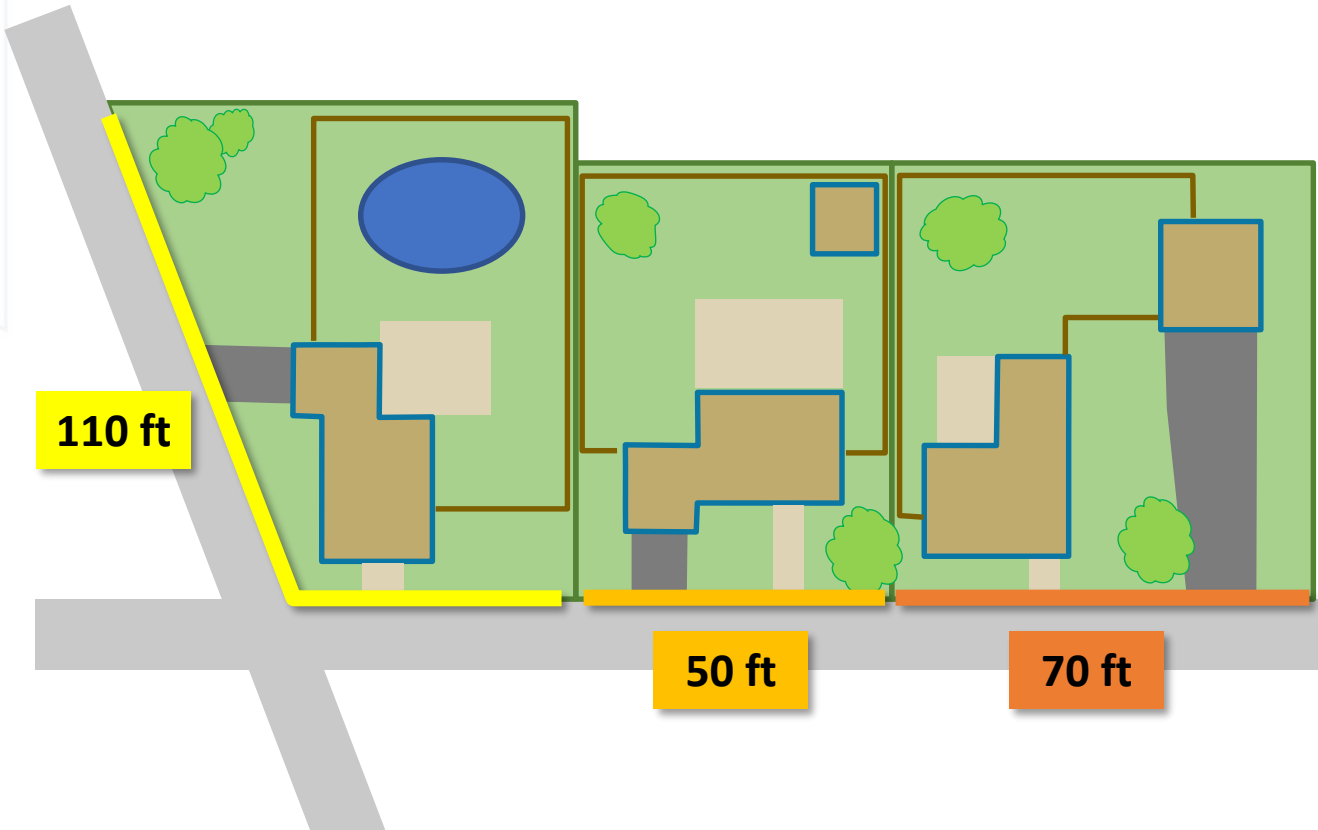


Options to Adjust

Minimum Frontage

If the min. is 70 ft…

- **Lot 2 becomes nonconforming**
- **None of the lots can split**

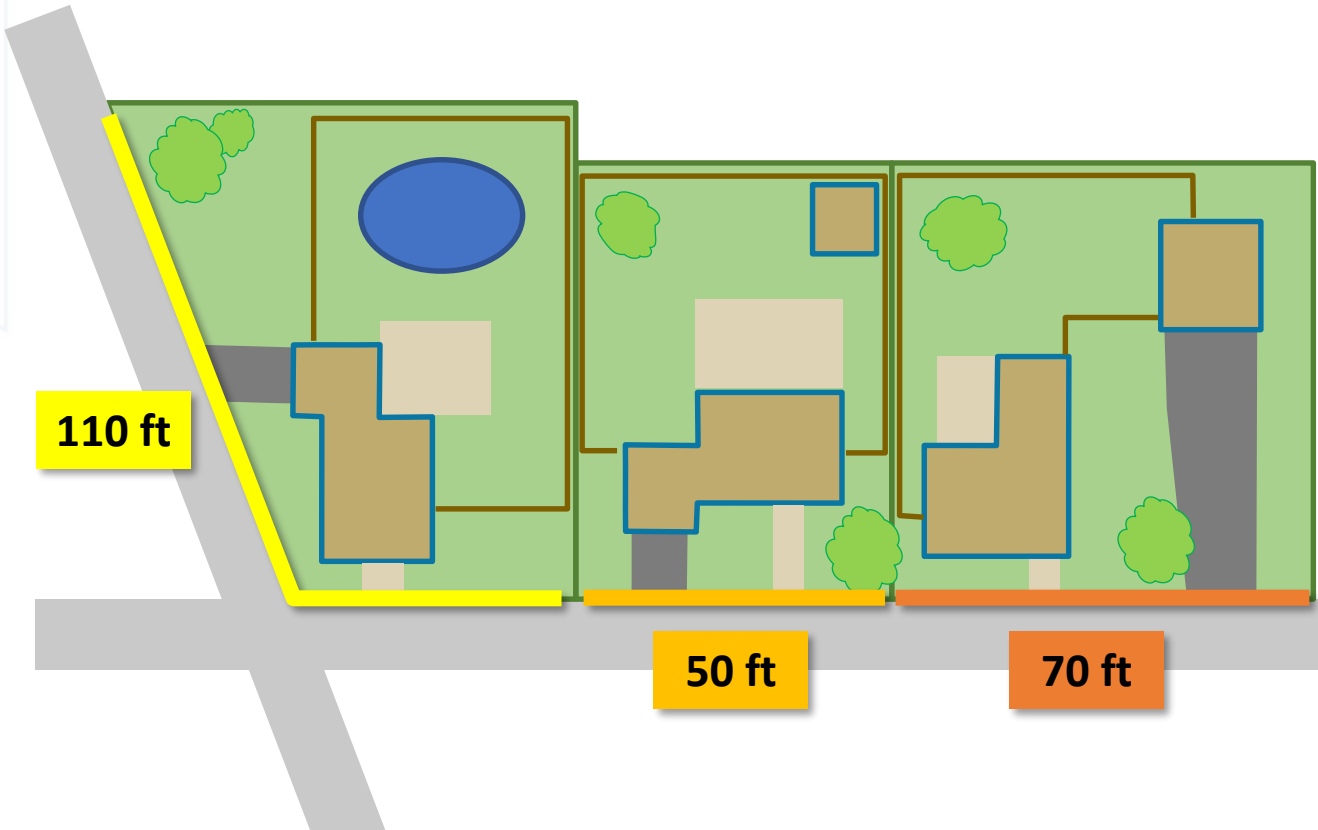


Options to Adjust

Minimum Frontage

If the min. is 100 ft…

- **Only Lot 1 is conforming**
- **None of the lots can split**



Options to Adjust

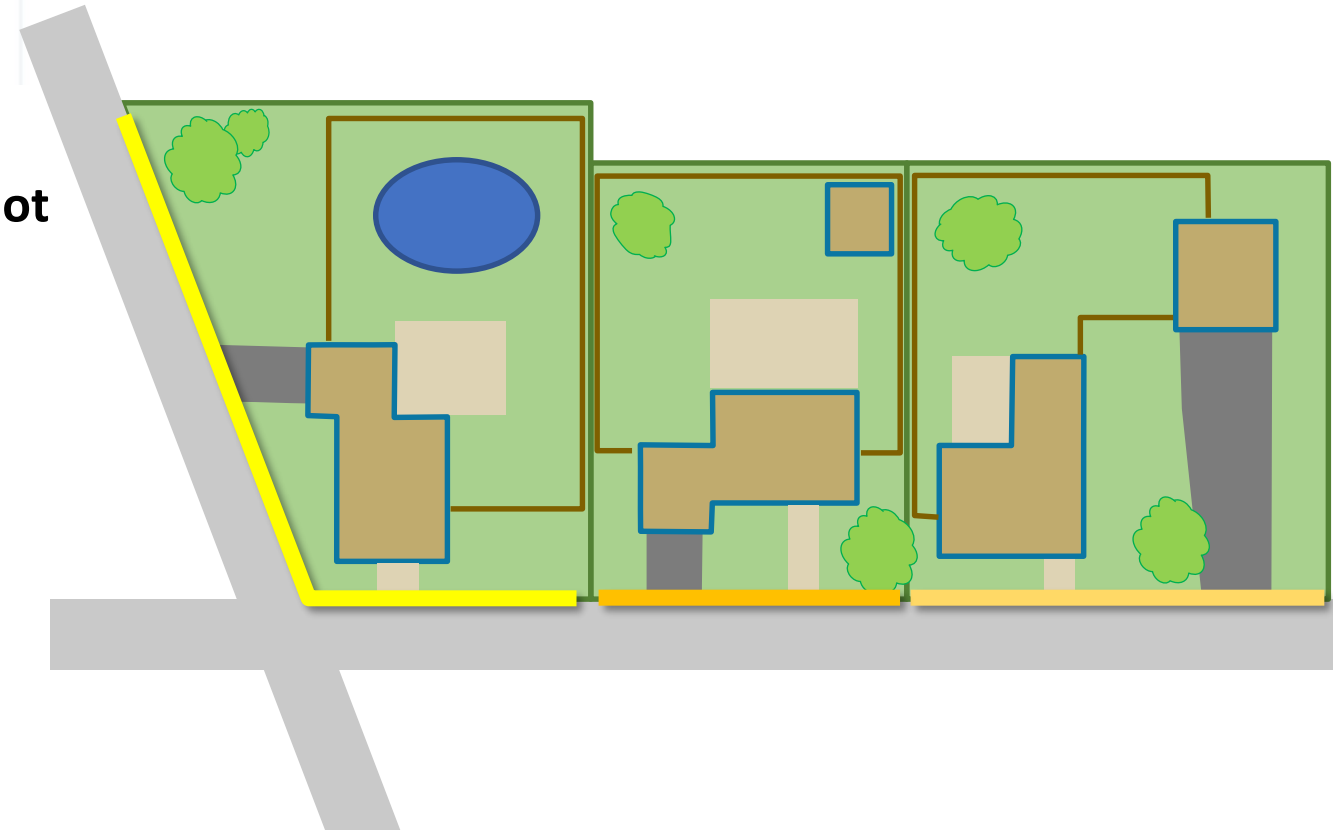
Minimum Frontage

Tradeoff between:

- **Amount of new infill lot creation**
- **Maintaining value for larger properties**

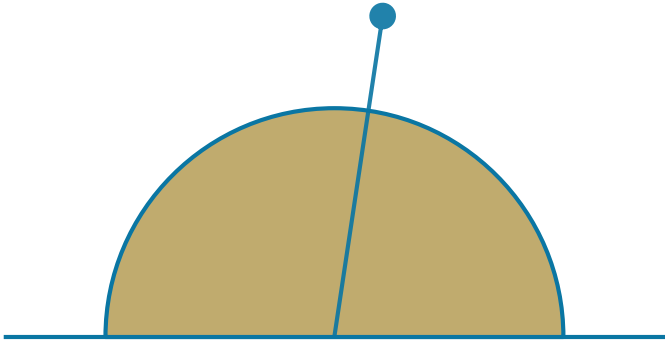
IF frontage increases …

- Fewer lot splits
- Possibly less value retention



Options to Adjust

Minimum Setbacks

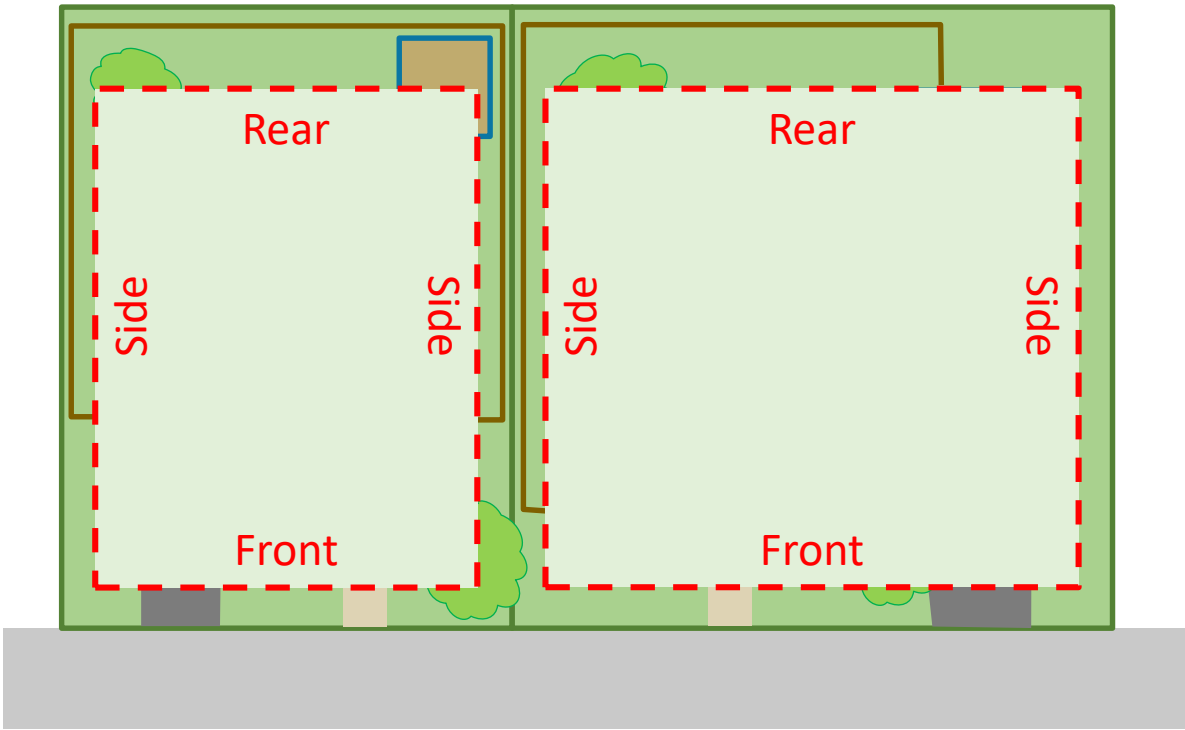


Options to Adjust

Minimum Setbacks

Setbacks: Front, Side, & Rear

Setbacks determine how far a building has to be from the neighbors or street



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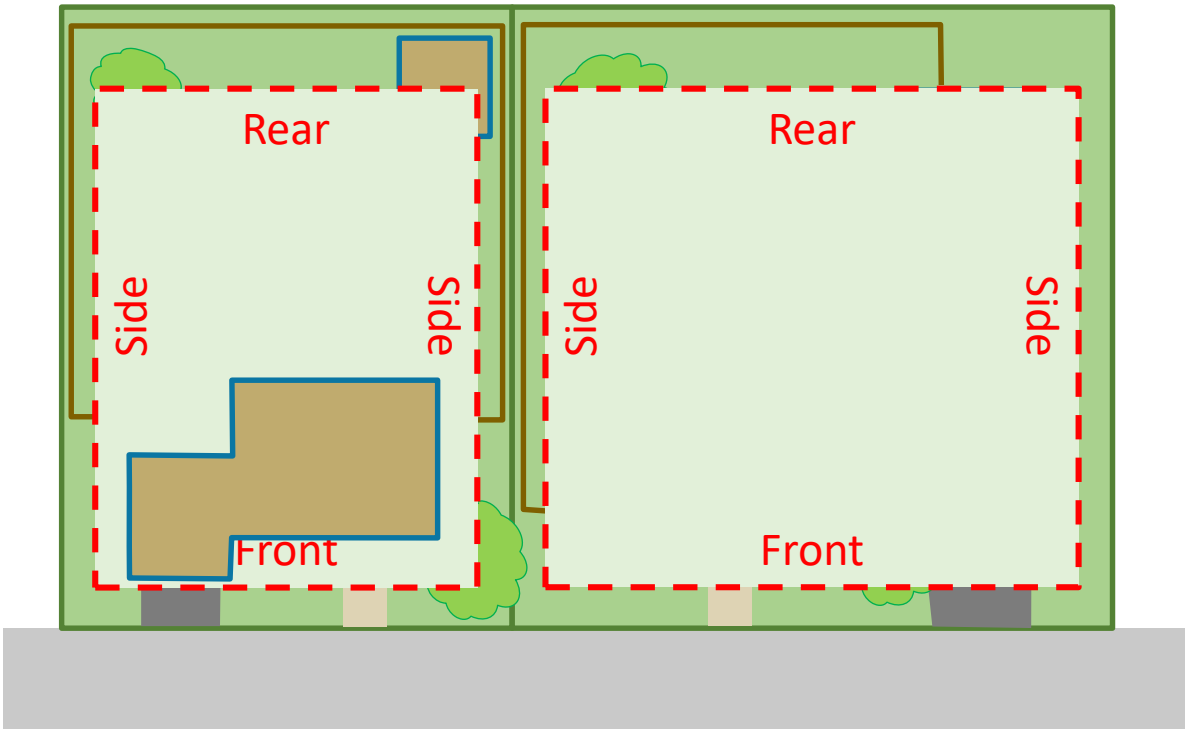


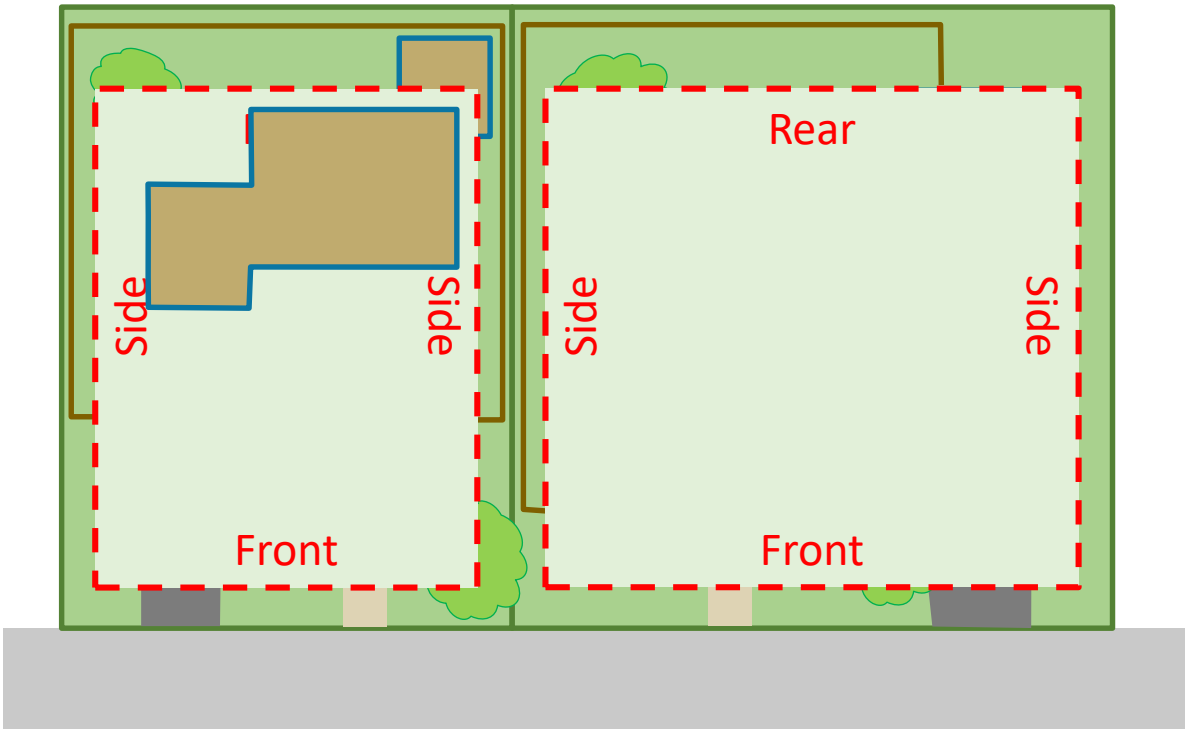
Options to Adjust

Minimum Setbacks

Setbacks: Front, Side, & Rear

Setbacks determine how far a building has to be from the neighbors or street

Combined with frontage buildout requirement and contextual front setback requirement, new buildings will need to be closer to the street

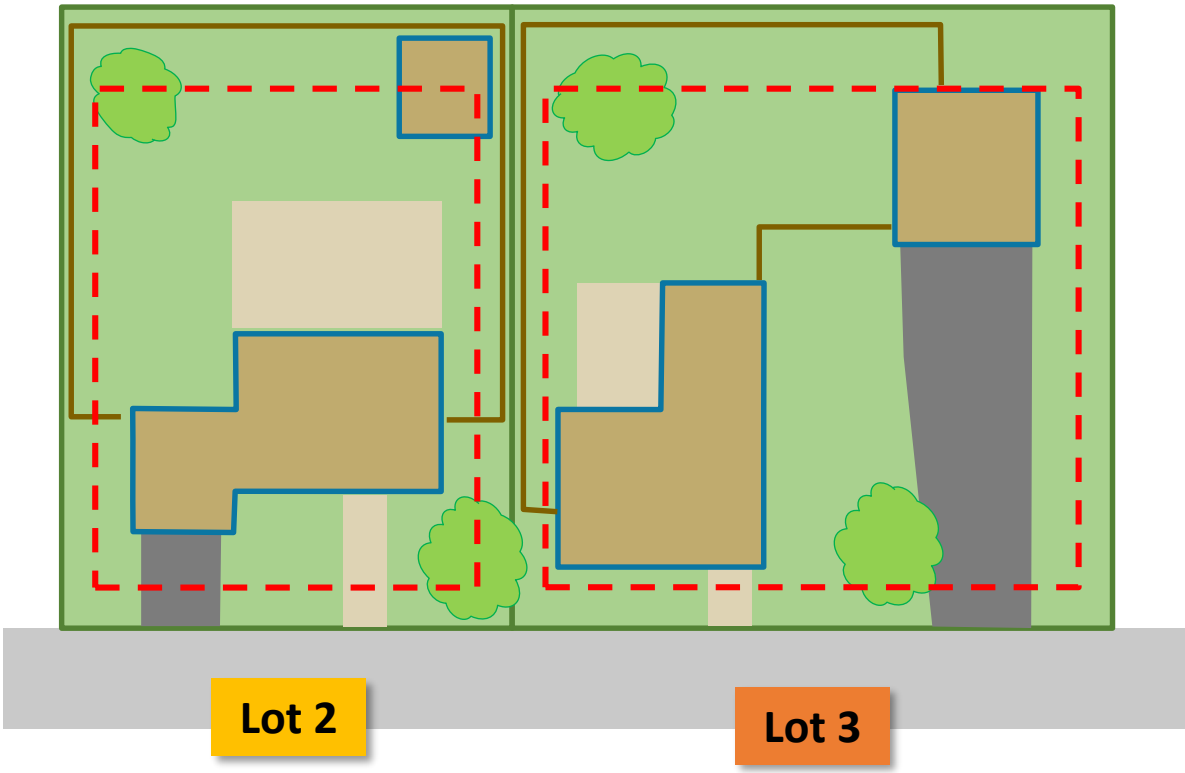


Options to Adjust

Minimum Setbacks

IF…min. side setback = 7.5 ft

- **Both houses are conforming**

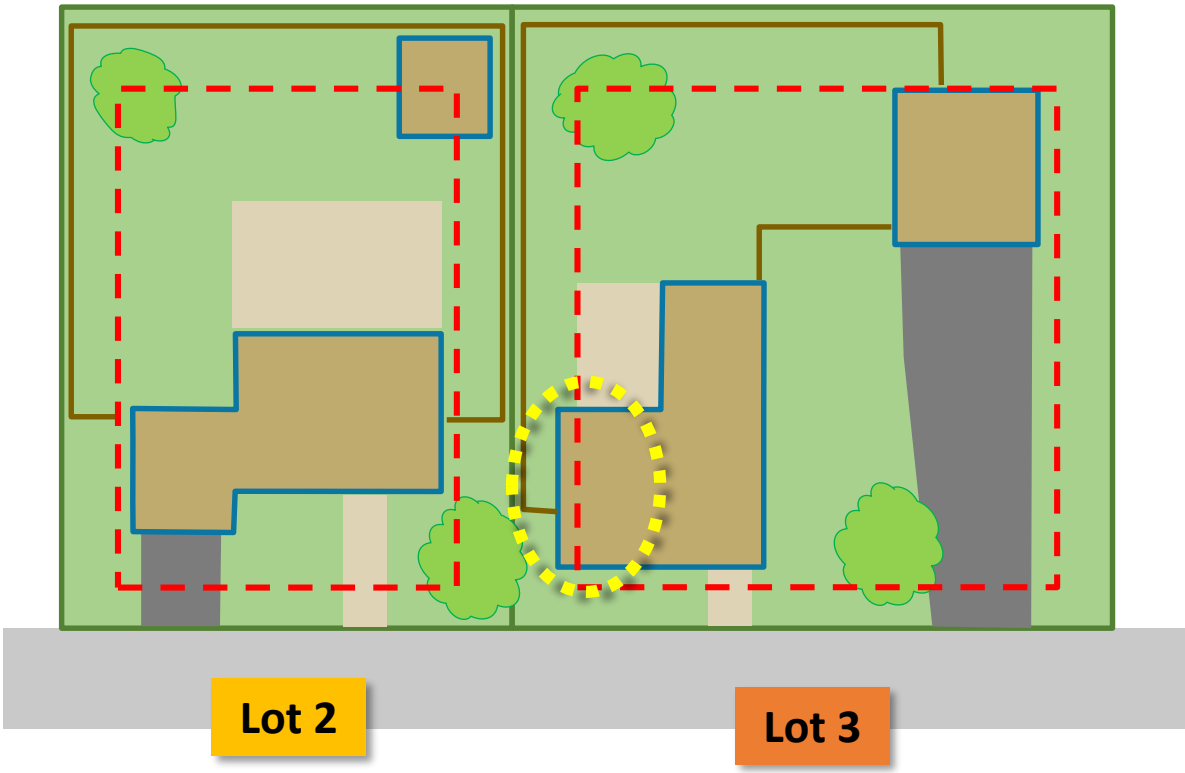


Options to Adjust

Minimum Setbacks

IF…min. side setback = 12 ft

- **Lot 2 is conforming**
- **Lot 3 is nonconforming**

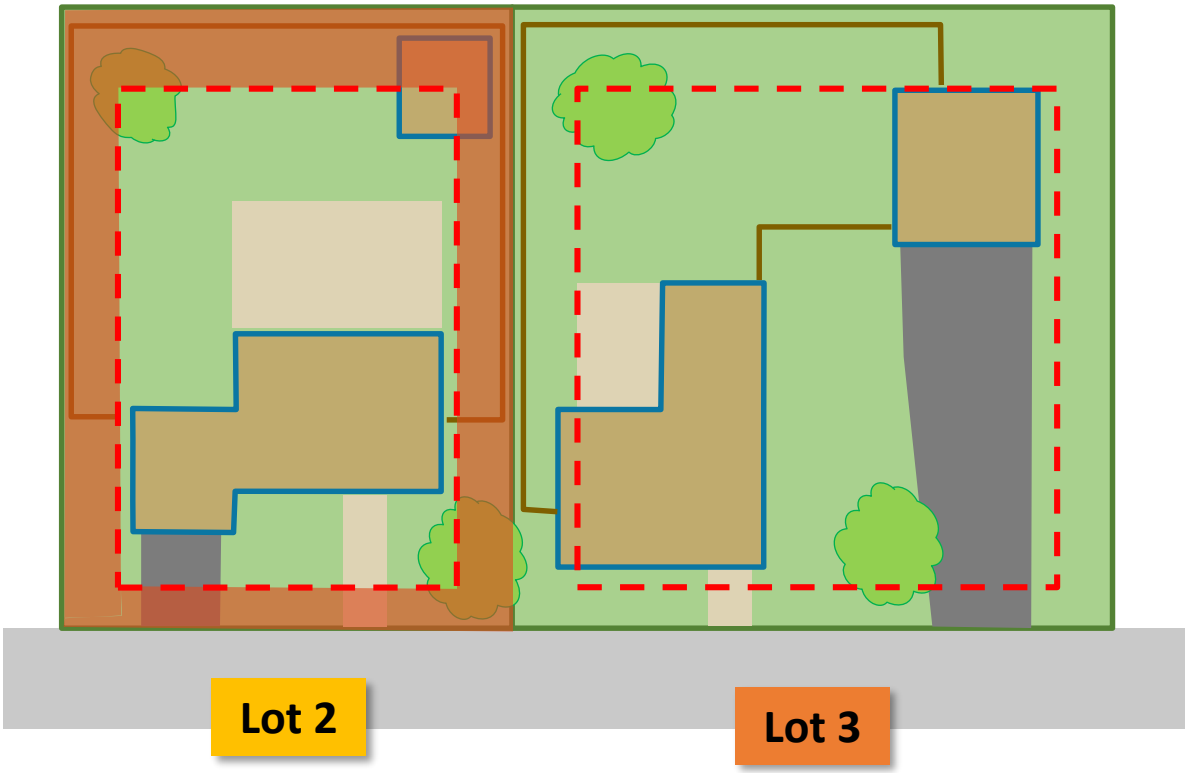


Options to Adjust

Minimum Setbacks

What does conforming mean for a home addition?

- **Lot 2 is conforming**
  - *Any expansion into the setbacks is off-limits*
- **Lot 3 is nonconforming**
  - *Section 6 Finding can grant further expansion into setback*



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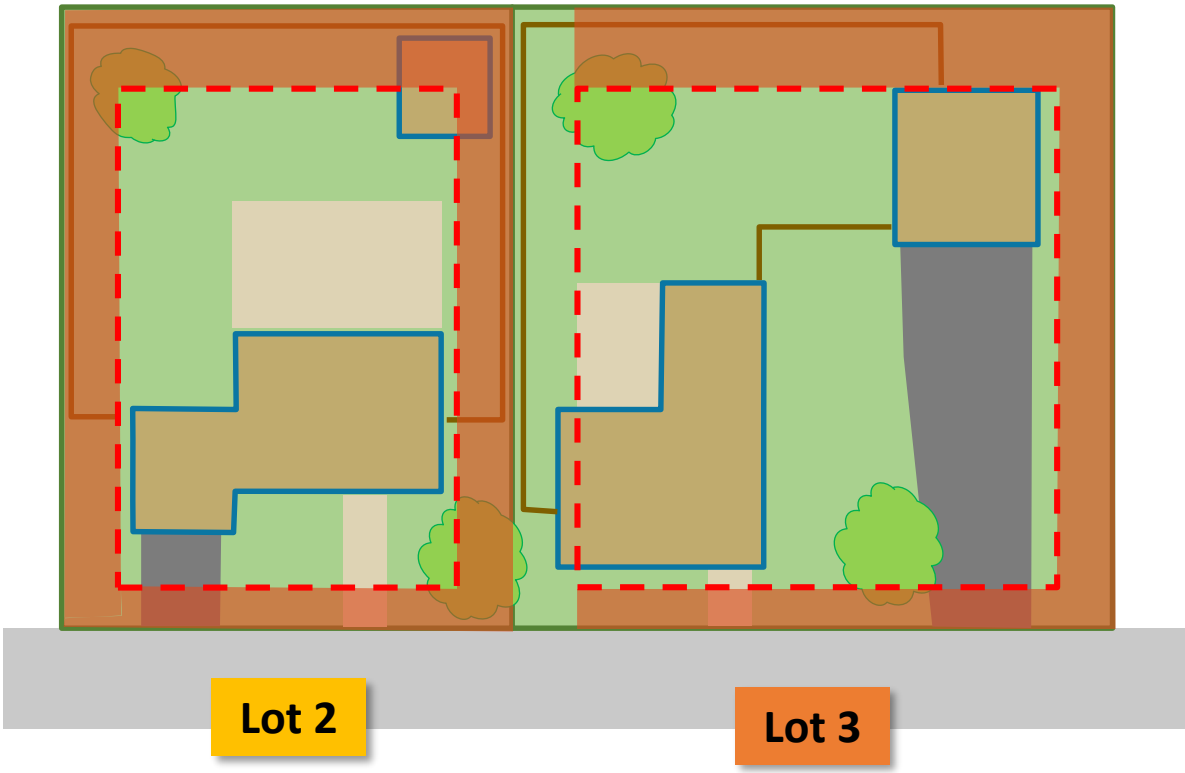

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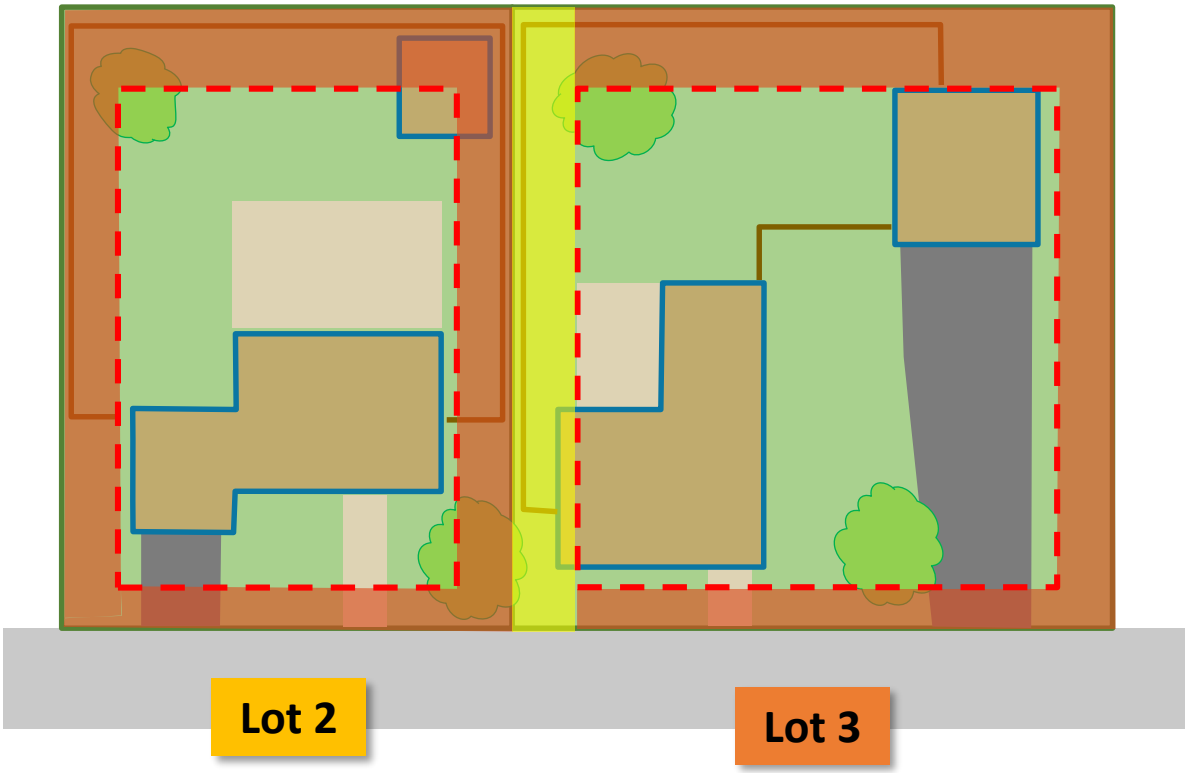


Options to Adjust

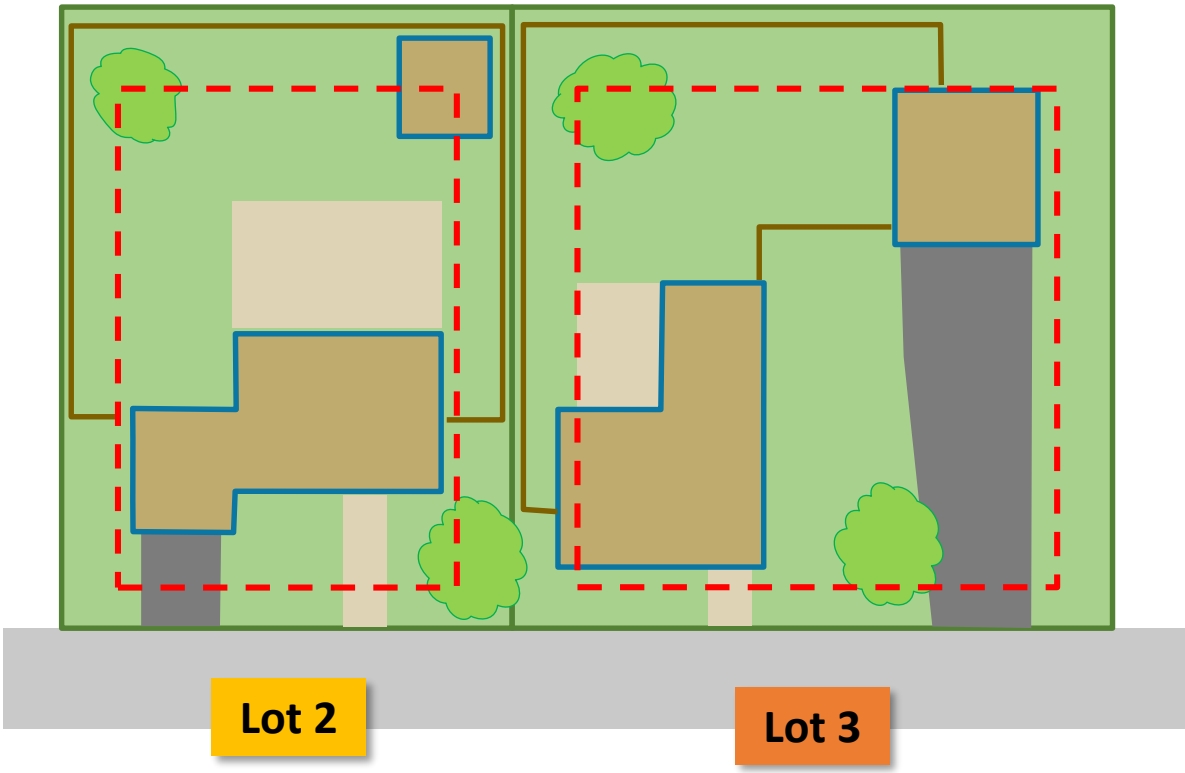
Minimum Setbacks

Tradeoff between:

- **More buildings that can expand closer to a neighbor**
- **New buildings being further from a neighbor**

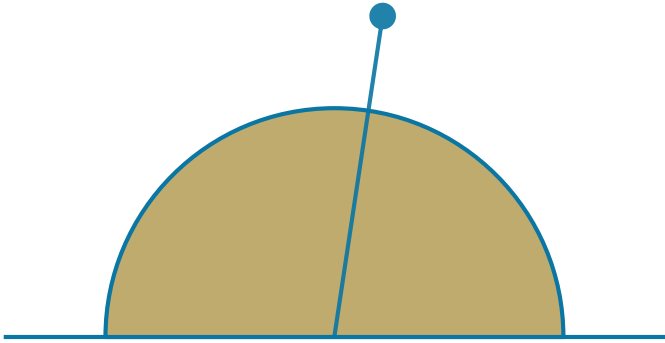
IF the setback increases…

- New building needs to be more in the center of a lot
- More existing buildings can expand closer to neighbors



Options to Adjust

Maximum Lot Coverage



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Maximum Lot Coverage

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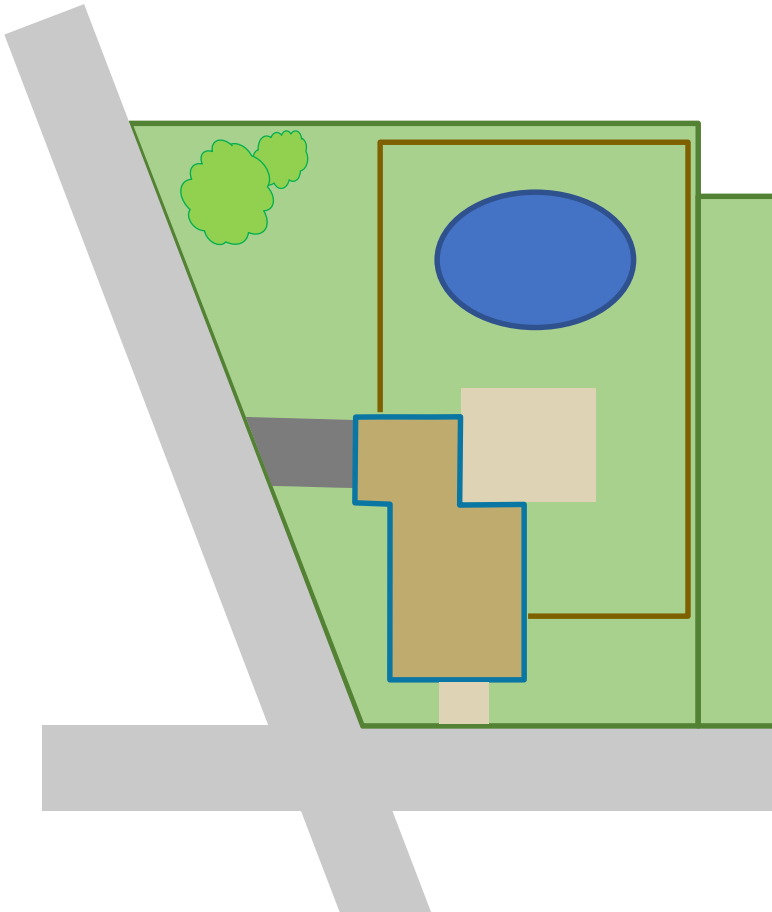
Inverse of lot coverage = % green



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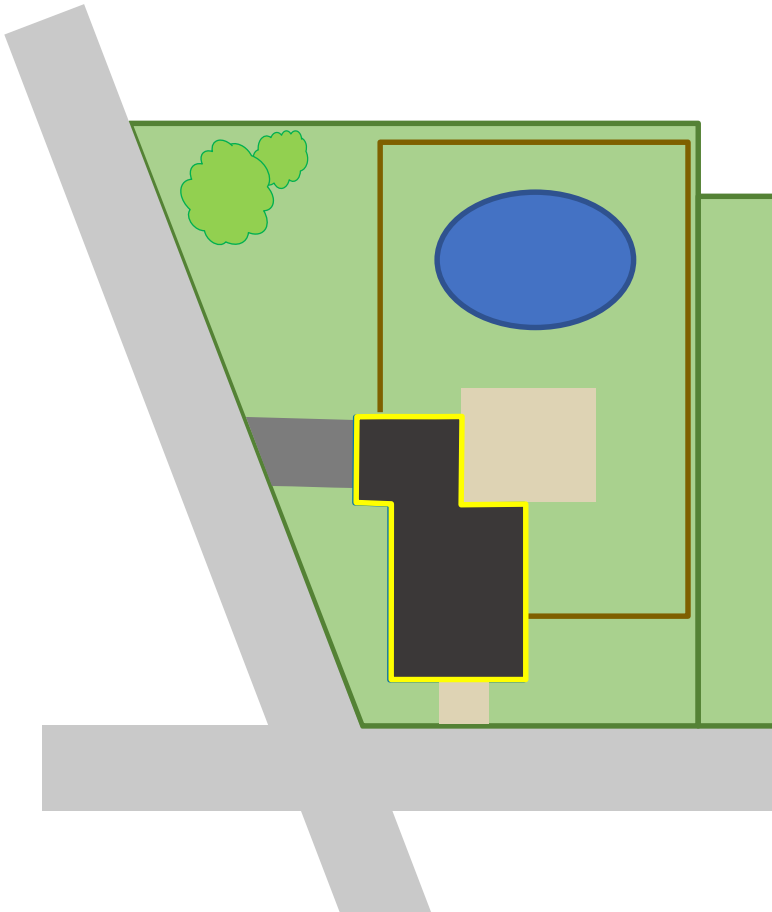

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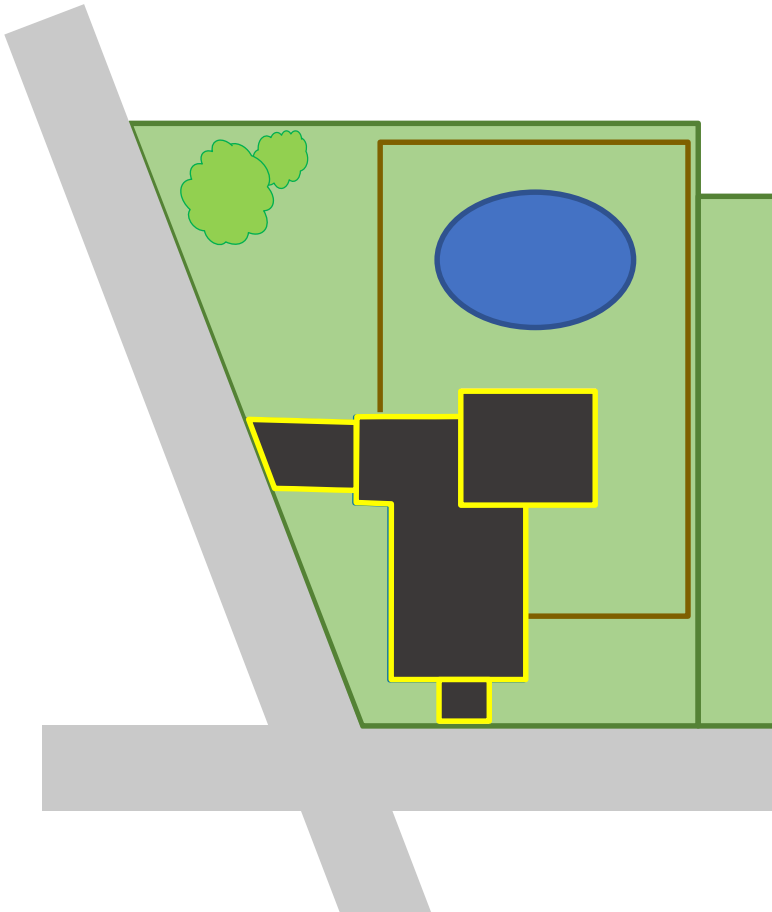

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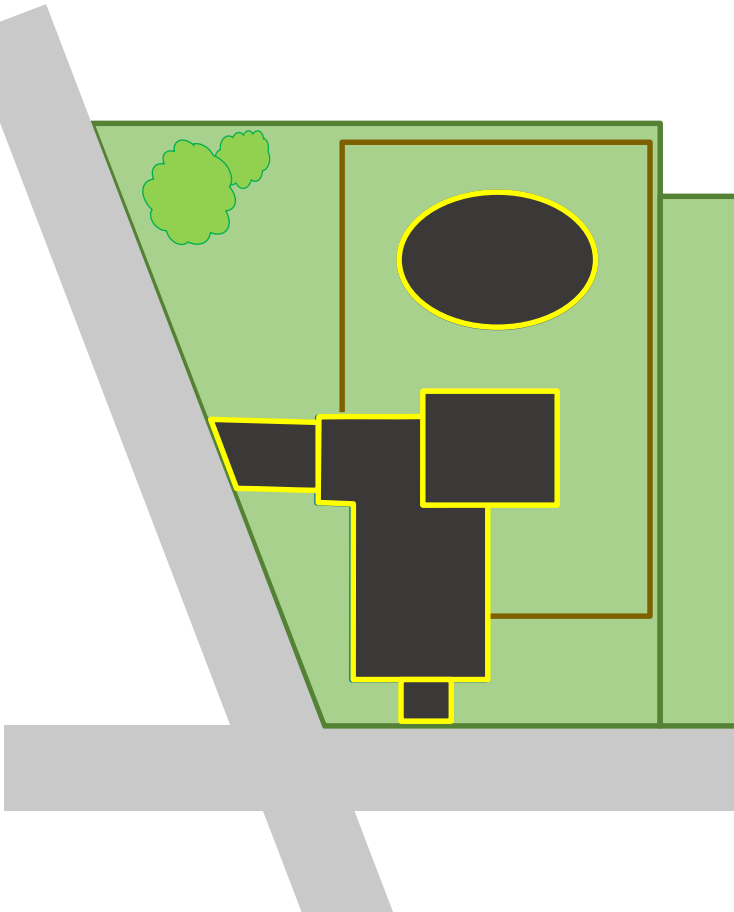


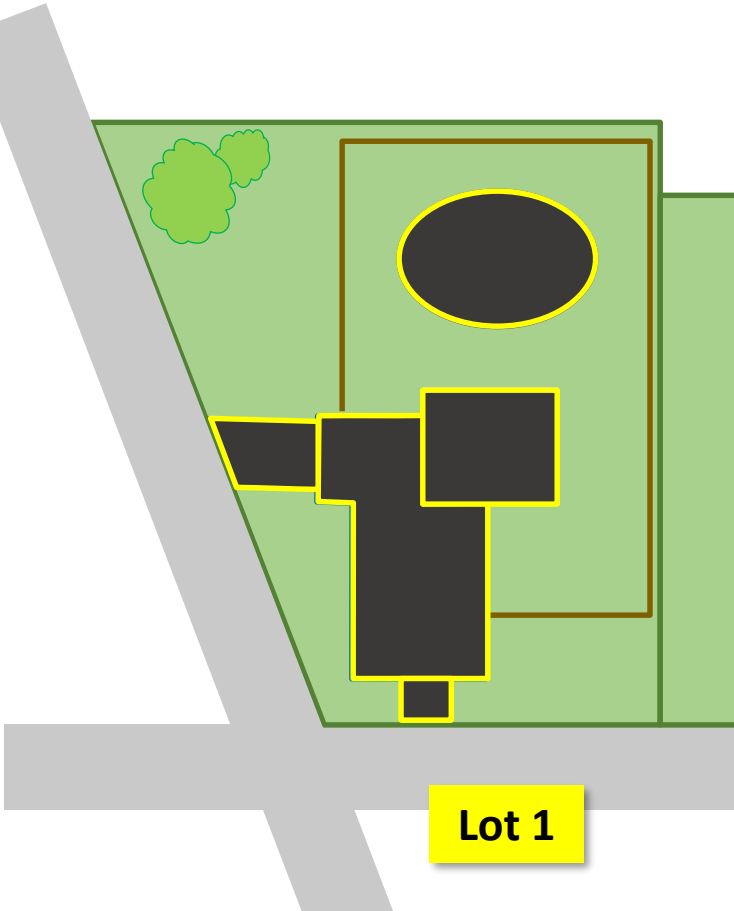
Options to Adjust

Maximum Lot Coverage

Lot 1 has a lot coverage of 35%

IF the maximum for the district is 40%...

- **Lot 1 is conforming**
  - **Only 5% more can be built**



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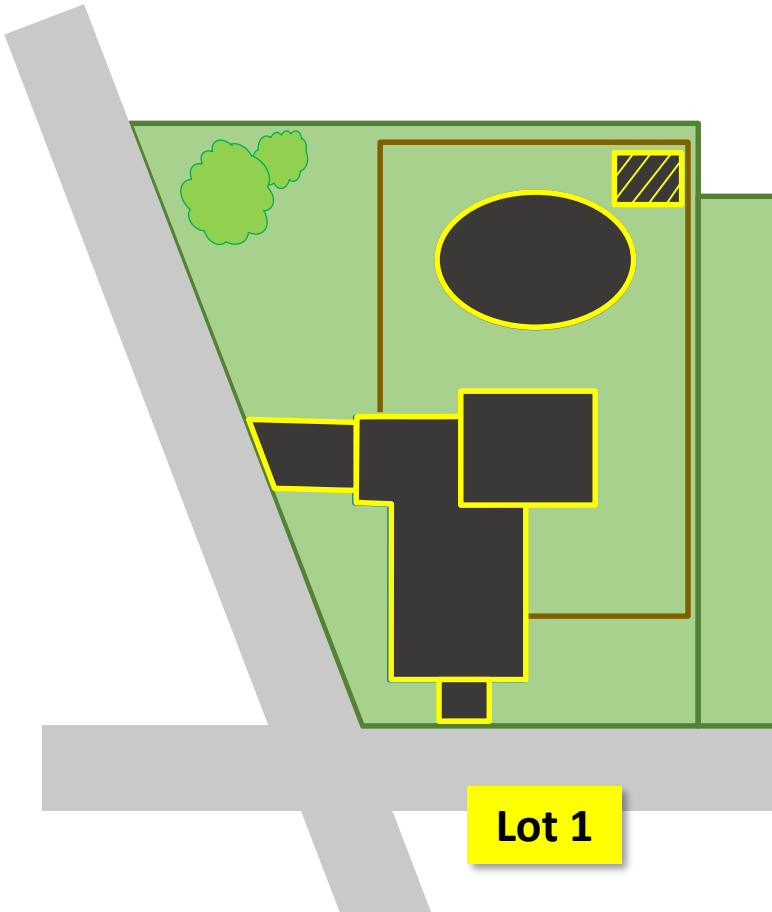

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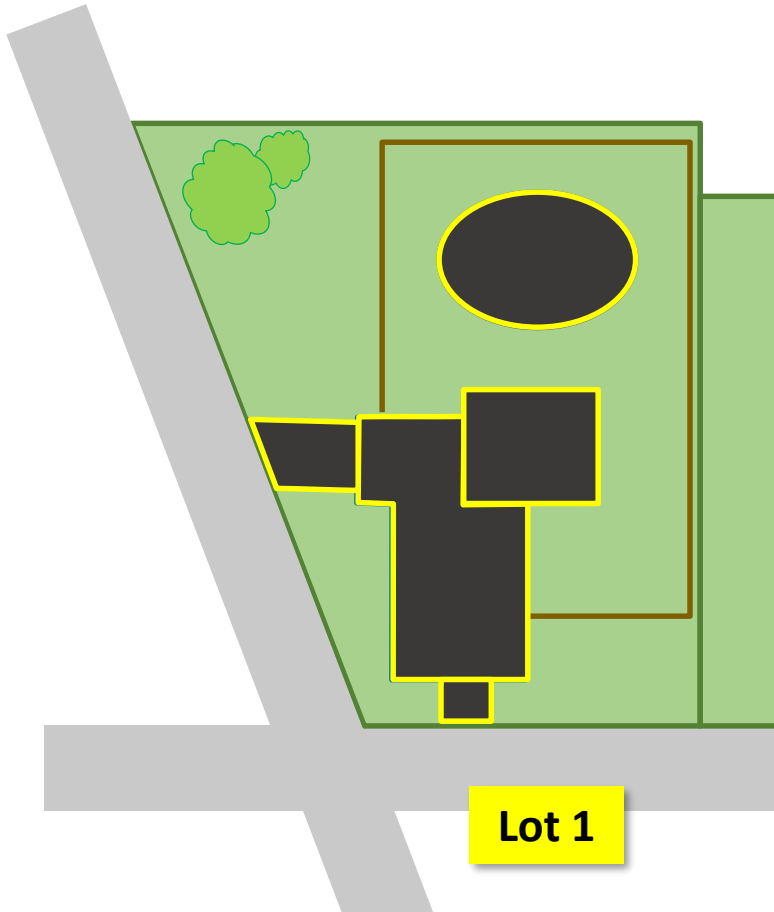

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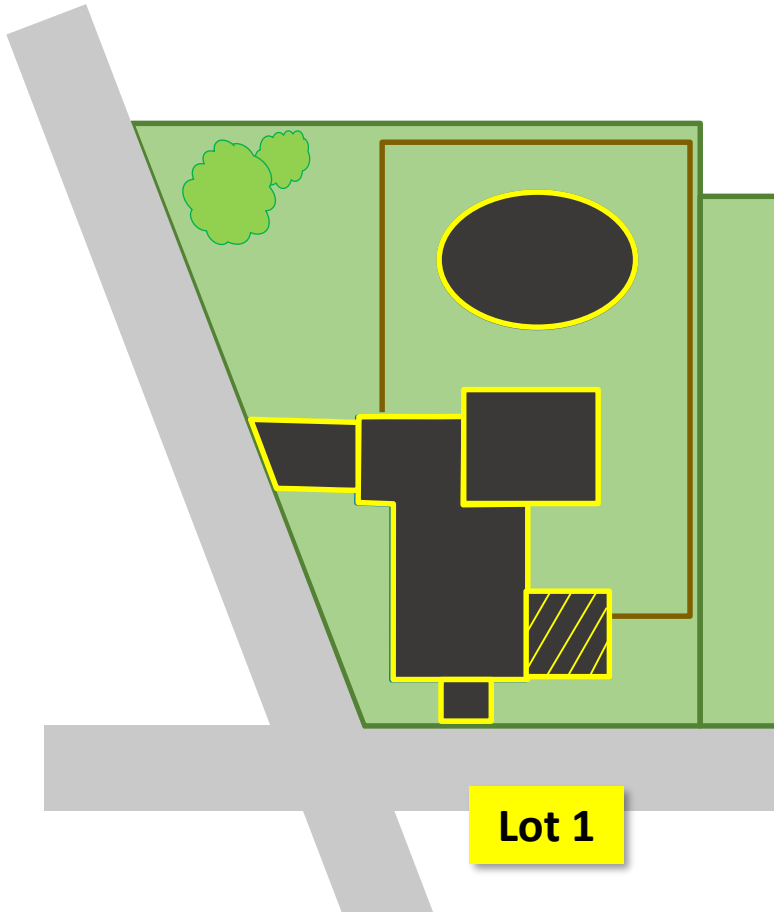


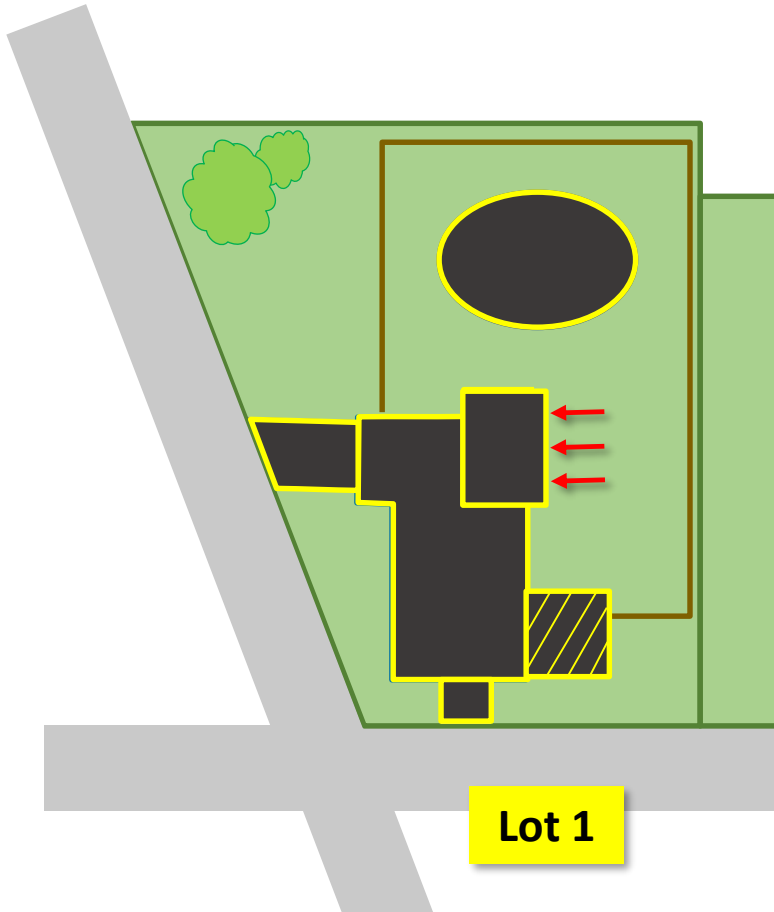
Options to Adjust

Maximum Lot Coverage

Lot 1 has a lot coverage of 35%

IF the maximum for the district is 35%...

- **Lot 1 is conforming**
  - **A by right home addition would have to replace some thing on site**



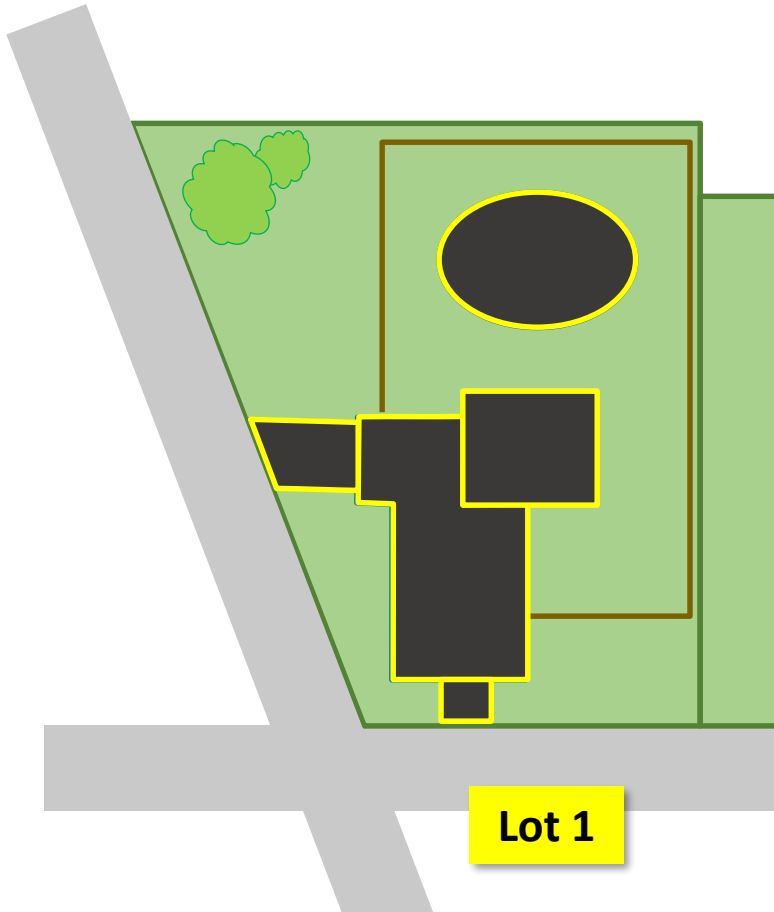
Options to Adjust

Maximum Lot Coverage

Lot 1 has a lot coverage of 35%

IF the maximum for the district is 30%...

- **Lot 1 is now nonconforming**
  - Through a Section 6 Finding, the property owner can request to expand



Options to Adjust

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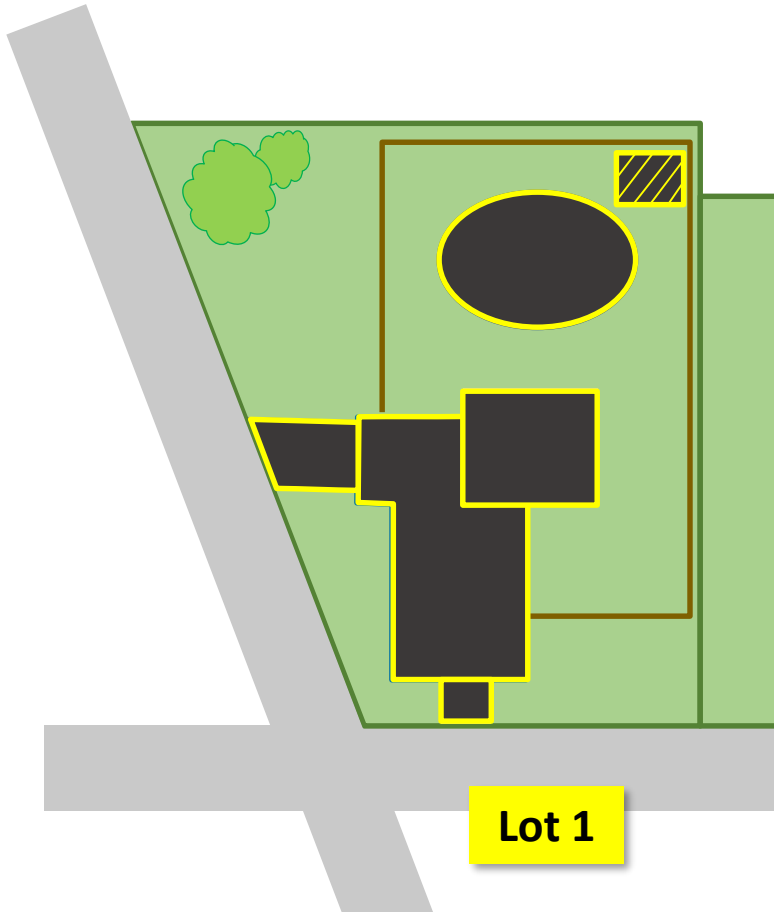

Options to Adjust

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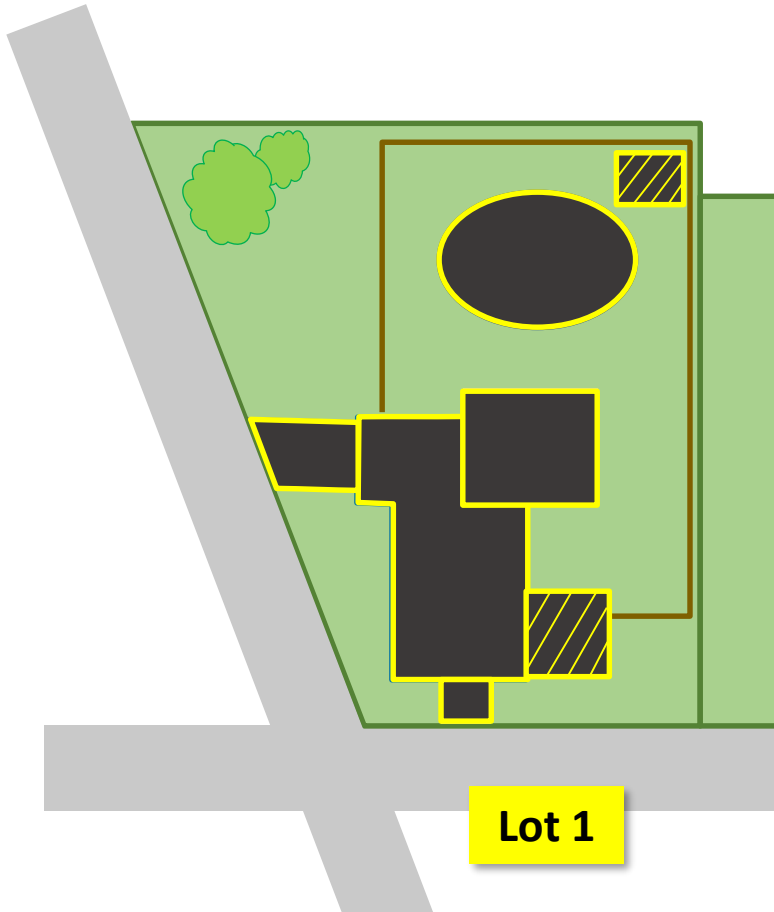


Options to Adjust

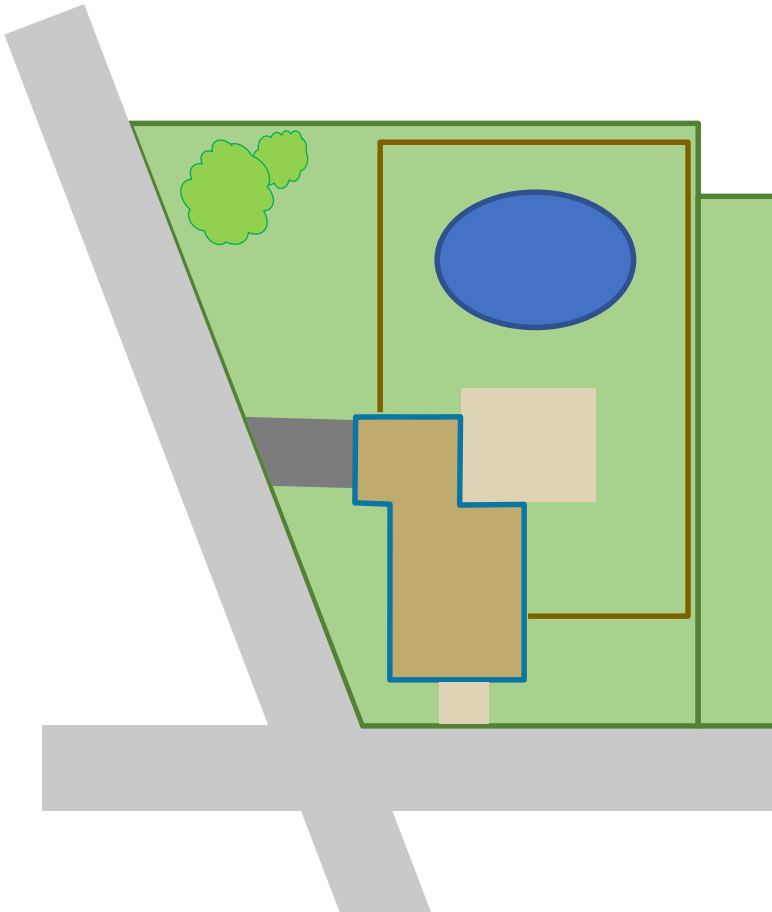
Maximum Lot Coverage

Tradeoff between:

- **More buildings being able to expand their coverage %**
- **Less lot coverage on newly constructed sites**

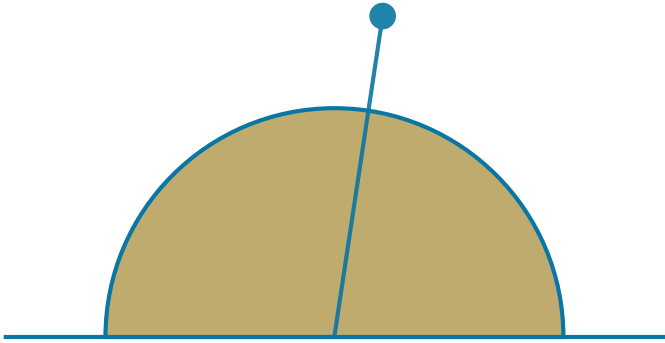
IF coverage max. decreases …

- New lots have to have more green
- Existing properties can possibly expand paved areas



Options to Adjust

Minimum Lot Depth or Lot Size



Options to Adjust

Min. Lot Depth or Size

Effective Minimum Lot Size =

The lot size needed to build a "min" or "max" building type

Residence 2 (R2) District Building Types

House B

House C

House D

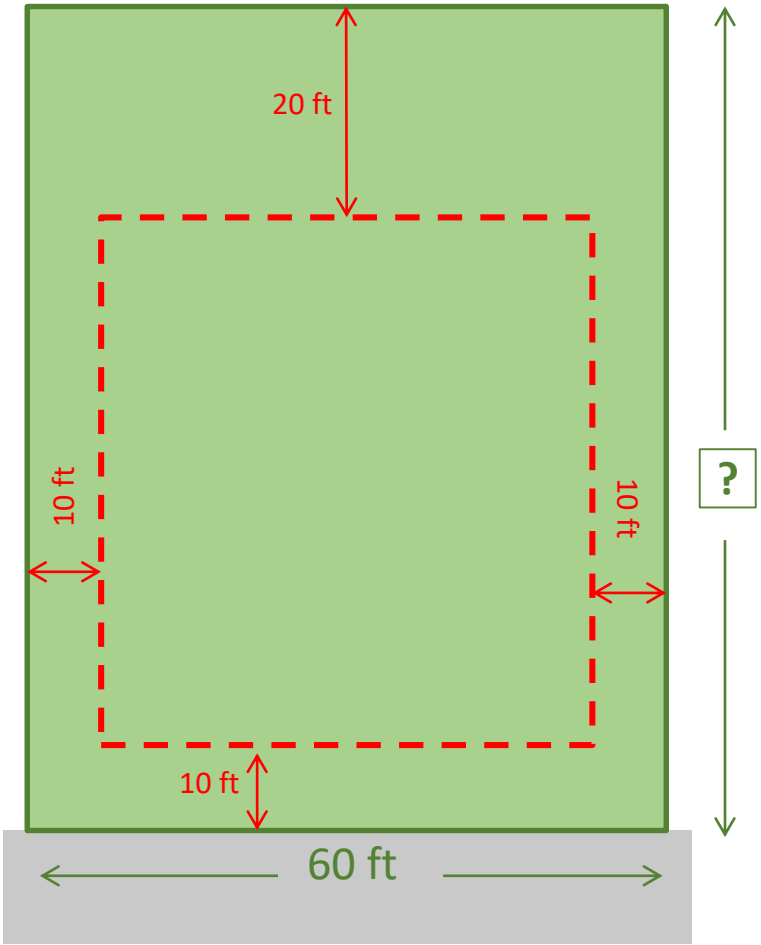
Options to Adjust

Min. Lot Depth or Size

Test #1: maximum bulk (max. sq. ft. on the lot)

- Assume maximum House B footprint (1600 sf)
- Assume House fills to the setbacks
  - Setbacks are specific to the district
- Assume minimal additional lot features (+400 sf)
  - House + 400 sf cannot exceed max. lot coverage (35%)

House B



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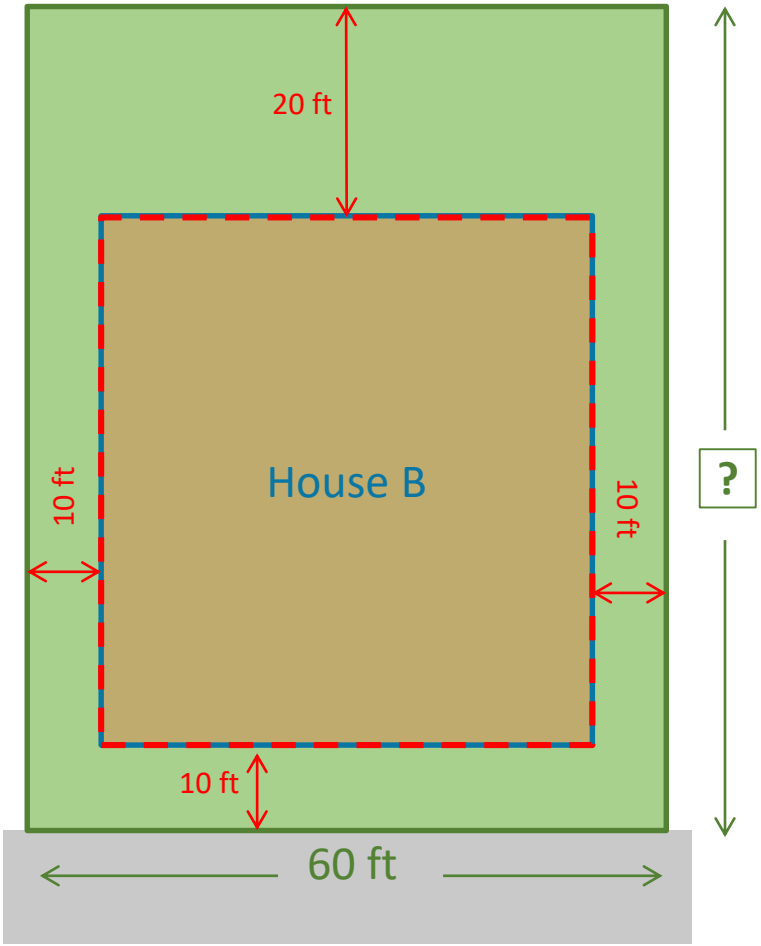

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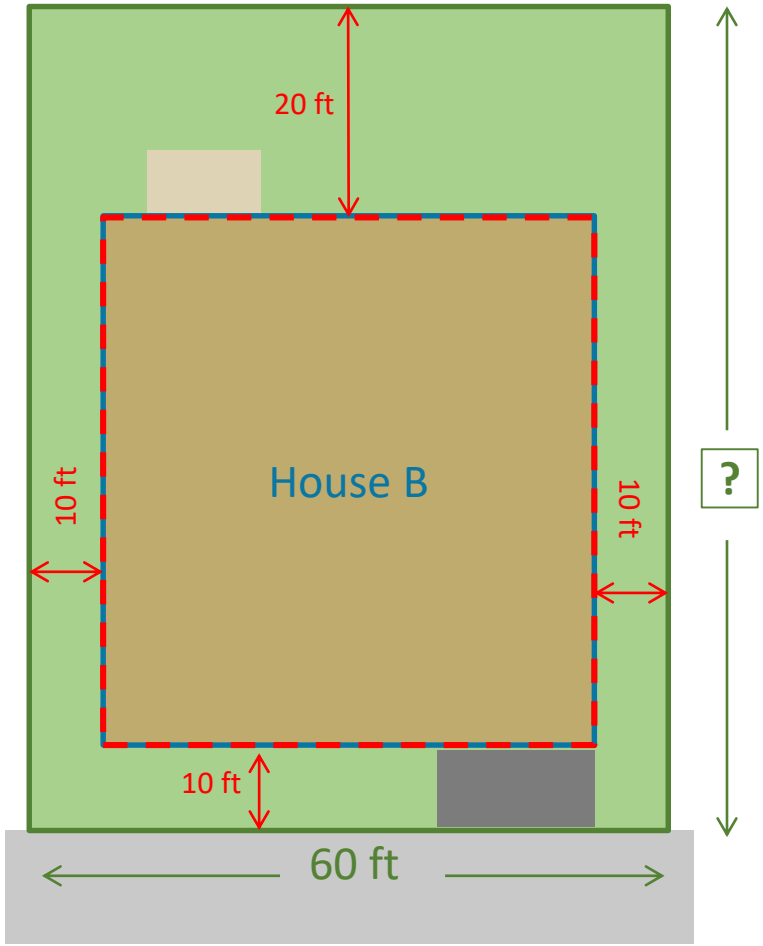

Options to Adjust

Min. Lot Depth or Size

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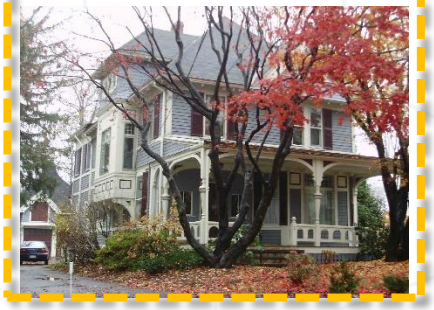
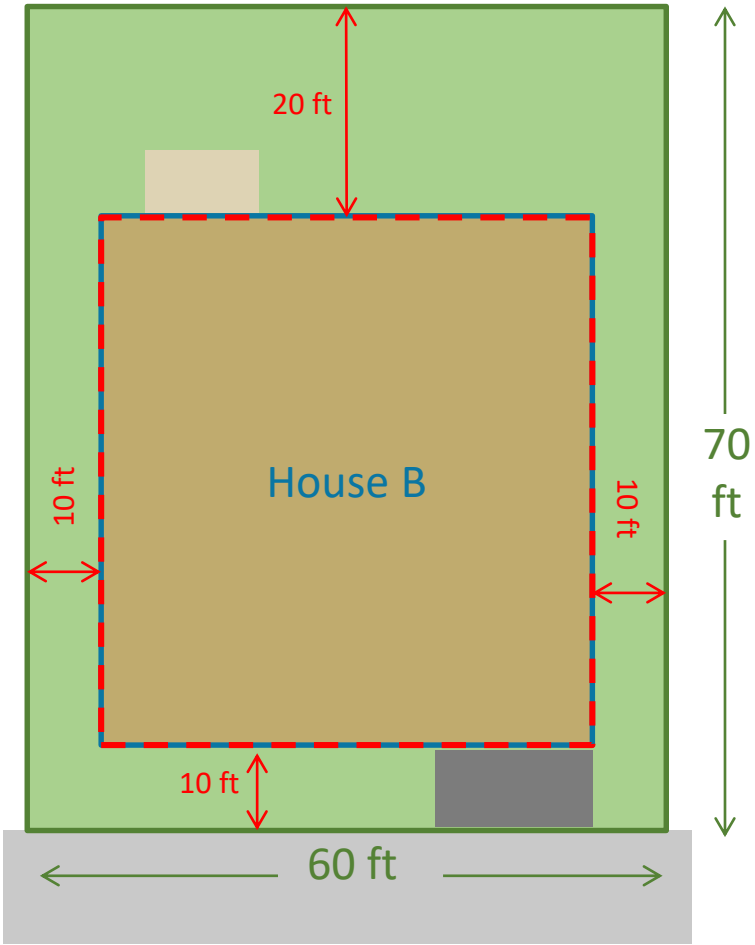
  - Setbacks are specific to the district
- Assume minimal additional lot features (+400 sf)
  - House + 400 sf cannot exceed max. lot coverage (35%)

Effective Min Lot Size = 5,725 sf. *(October Draft)*

House B



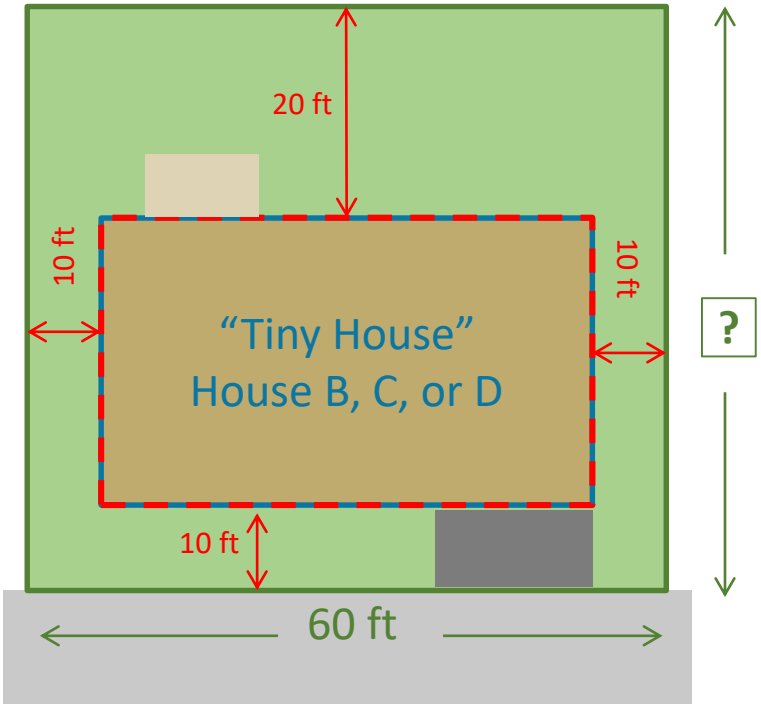


Options to Adjust

Min. Lot Depth or Size

Test #2: maximum lots (min. sq. ft. on the lot)

- Assume House fills to side setbacks and has a minimal depth (15 ft)
  - Resulting minimum House B footprint = 600 ft
- Assume minimal additional lot features (+400 sf)
  - House + 400 sf cannot exceed max. lot coverage (35%)



Options to Adjust

Min. Lot Depth or Size

Test #2: maximum lots (min. sq. ft. on the lot)

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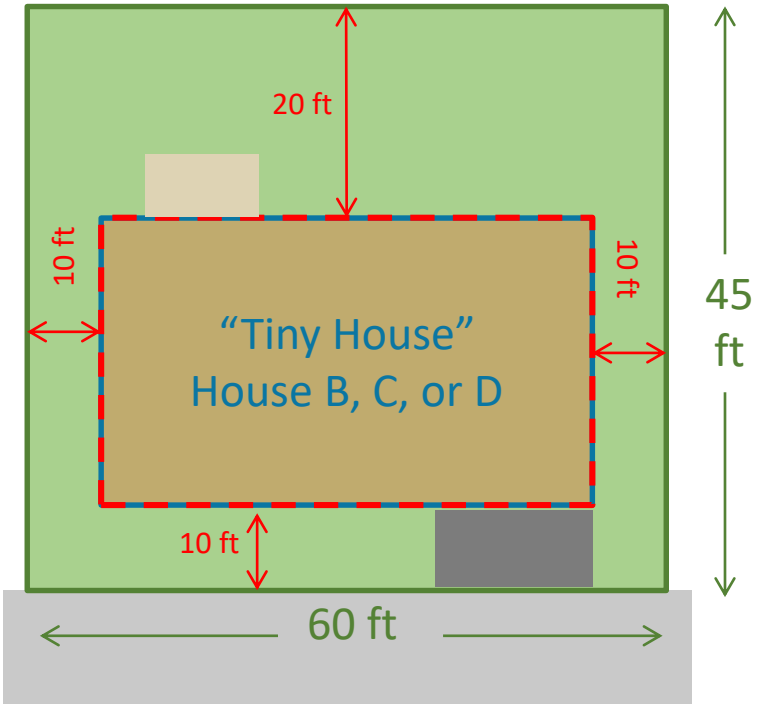
  - Resulting minimum House B footprint = 600 ft
- Assume minimal additional lot features (+400 sf)
  - House + 400 sf cannot exceed max. lot coverage (35%)

Effective Min Lot Size = 2,700 sf. *(October Draft)*

House B



Options to Adjust

Min. Lot Depth or Size

	House B	House C	House D
#1. Maximum Building	5,725 sf	5,500 sf	11,150 sf
#2. Minimum Building	2,700 sf	2,700 sf	2,700 sf

Residence 2 (R2) District Building Types

House B

House C

House D

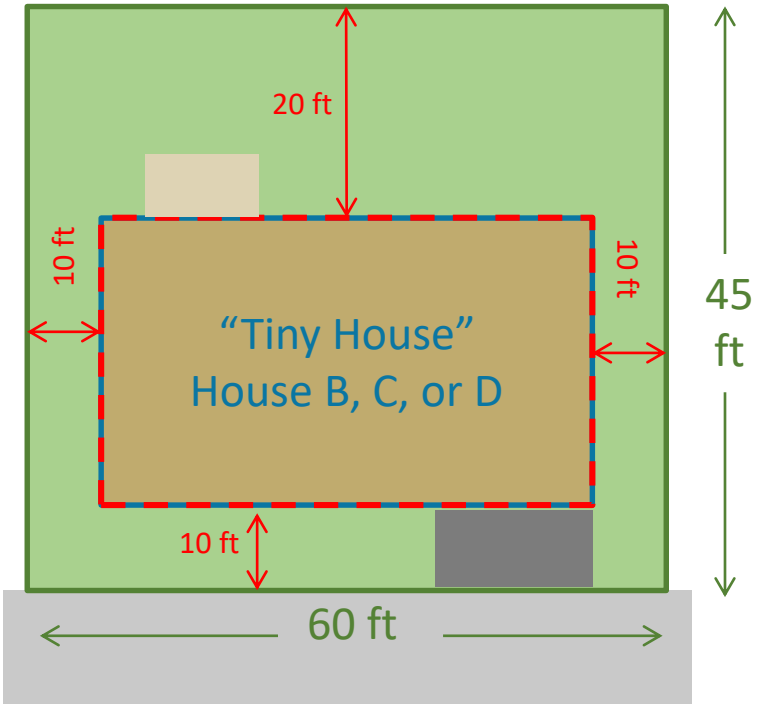
Options to Adjust

Min. Lot Depth or Size

Finding:

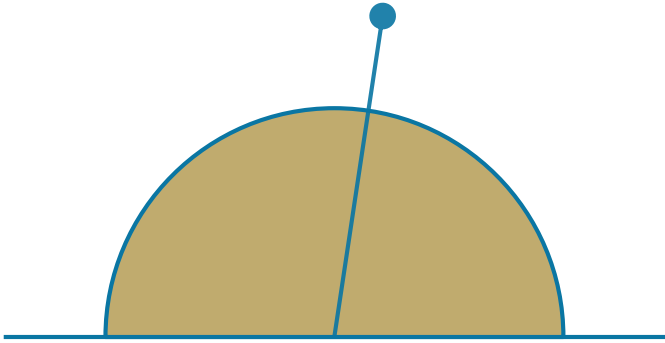
2% more lots result if the model looks for tiny house lots creation

Meaning – frontage drives 98% of the lot splits



Options to Adjust

Building Types & Building Type Standards



Options to Adjust

Building Types & their standards

Only building types allowed in the district can be used

House A | Two-Unit Building | Apartment House | Small Apartment Building | Shop House | ???

Options to Adjust

Building Types & their standards

Only building types allowed in the district can be used

House A | Two-Unit Building | Apartment House | Small Apartment Building | Shop House | ???

Options to Adjust

Building Types & their standards

The list of allowed building types can be changed

House A | Two-Unit Building | Apartment House | Small Apartment Building | Shop House | ???

Options to Adjust

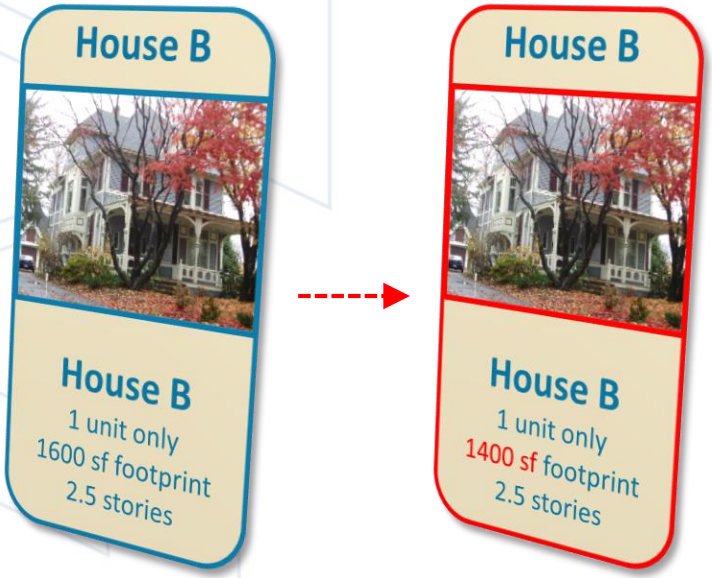
Building Types & their standards

The list of allowed building types can be changed

Options to Adjust

Building Types & their standards

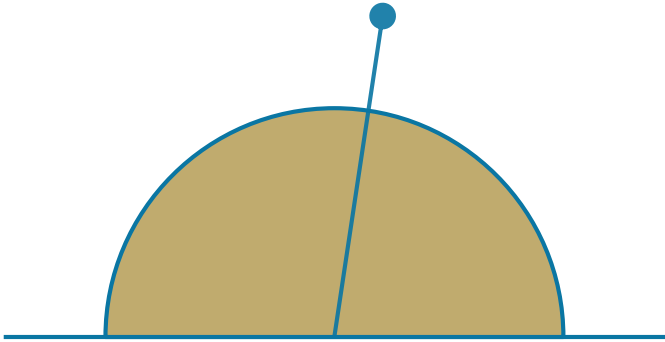
The standards of the building types can also be changed



House A | Two-Unit Building | Apartment House | Small Apartment Building | Shop House | ??? | House C | House D

Options to Adjust

Special Permits & Administrative Site Plan Approval



Options to Adjust

Special Permit & Admin. Site Plan Approval

Special Permits & Design Review

- **Building Types allow a range of special permit options, all with design review required**

- **Large House Review:**
  What is large?
  - **Lowering the by right standards, shifts more projects into the special permit with design review**

Options to Adjust

Special Permit & Admin. Site Plan Approval

Administrative Site Plan Approval

- **Building Types or Site Features that are essentially by-right, but need more specific staff review**

- **Proximity Rule is an example**

District by District Discussion

District by District

Residence 2

District by District

Residence 2

LOT STANDARDS	October Draft	February Draft
Min. Frontage	60 ft	60 ft
Min. Lot Depth	n/a	n/a
Max. Lot Coverage	35%	30%
Min. Setbacks		
Front	15 ft	20 ft
Side	10 ft	12.5 ft
Rear	20 ft	30 ft

BUILDING TYPE modifications		October Draft	February Draft
House B	Max. By Right Footprint	1,600 sf	1,400 sf
	Max. Special Permit Footprint	2,200 sf	2,000 sf
House C	Max. By Right Footprint	1,400 sf	1,200 sf
	Max. Special Permit Footprint	1,800 sf	1,800 sf
House D	No changes		

District by District

Residence 2

R2 District	Total Existing Buildable Lots	Max. Possible Lots that can be split	Max. Possible Net New Lots	Max. Possible Buildable Lots after splits	Max. Possible Units*	Max. Possible Bulk (sf)	Max. Possible Existing Lots Vulnerable to Speculative Teardown	Max. % at risk of speculative teardowns
Current Ordinance	11,964	32	78	12,010	12,784	49,689,010	4,161	33%
October Draft	12,148	604 771	1,282 1,634	12,826 13,011	13,326 13,509	49,207,500 52,005,500	7,696 8,808	62% 71%
February Draft	12,148	635 747	1,345 1,579	12,858 12,980	13,358 13,478	42,373,100 45,195,400	476 629	4% 5%

**Includes existing non-conforming units*

4% change in number of possible units

District by District

Neighborhood General

District by District

Neighborhood General

LOT STANDARDS	October Draft	February Draft
Min. Frontage	30 ft	50 ft
Min. Lot Depth	n/a	n/a
Max. Lot Coverage	65%	70%
Min. Setbacks		
Front	0 ft	5 ft
Side	7.5 ft	10 ft
Rear	15 ft	20 ft

BUILDING TYPE modifications		October Draft	February Draft
House B	Footprint		Same as R2
	Number of Stories	3 stories	2.5 stories 3 by SP
House C	Footprint		Same as R2
Two-Unit	Footprint	2,000 sf 2,200 by S.P.	1,400 sf 1,600 by S.P.
	Number of Stories	3 stories	2.5 stories 3 by SP
~~Apartment House~~ Three-Unit	Building Footprint	2,500 sf	1,600 sf 1,800 by S.P.
	Number of Stories	3 stories	2.5 stories 3 by S.P.
	Number of Units	3-6 units	3 units
~~Small Apartment Building~~ 4-8 Unit	Building Footprint	4,200 sf	2,500 sf
	Number of Stories	3 stories	2.5 stories 3 by S.P.
	Number of Units	3-10 units	4-8 units

District by District

Neighborhood General

N District	Total Existing Buildable Lots	Max. Possible Lots that can be split	Max. Possible Net New Lots	Max. Possible Buildable Lots after splits	Max. Possible Units*	Max. Possible Bulk (sf)	Max. Possible Lots Vulnerable to Speculative Teardown	Max. % at risk of speculative teardowns
Current Ordinance	207	29	66	244	1,150	1,592,282	116	25%
October Draft	455	138 167	270 322	725 777	5,805 7,519	7,328,850 9,400,050	365 397	78% 84%
February Draft	455	395 407	258 267	714 722	4,952 5,691	4,772,400 5,260,500	352 381	75% 81%

**Includes existing non-conforming units*

District by District

Residence 3

District by District

Residence 3

LOT STANDARDS	October Draft	February Draft
Min. Frontage	40 ft	50 ft
Min. Lot Depth	n/a	n/a
Max. Lot Coverage	60%	50%
Min. Setbacks		
Front	5 ft	10 ft
Side	7.5 ft	10 ft
Rear	15 ft	20 ft

BUILDING TYPE modifications		October Draft	February Draft
House B	Footprint		Same as R2
	Number of Stories	3 stories	2.5 stories 3 by SP
House C	Footprint		Same as R2
Two-Unit	Footprint	2,000 sf 2,200 by S.P.	1,400 sf 1,600 by S.P.
	Number of Stories	3 stories	2.5 stories 3 by SP
~~Apartment House~~ Three-Unit	Building Footprint	2,500 sf	1,600 sf 1,800 by S.P.
	Number of Stories	3 stories	2.5 stories 3 by S.P.
	Number of Units	3-6 units	3 units
~~Small Apartment Building~~ 4-8 Unit	Building Footprint	4,200 sf	2,500 sf
	Number of Stories	3 stories	2.5 stories 3 by S.P.
	Number of Units	3-10 units	4-8 units

District by District

Residence 3

R3 District	Total Existing Buildable Lots	Max. Possible Lots that can be split	Max. Possible Net New Lots	Max. Possible Buildable Lots after splits	Max. Possible Units*	Max. Possible Bulk (sf)	Max. Possible Lots Vulnerable to Speculative Teardown	Max. % at risk of speculative teardowns
Current Ordinance	5,728	41	62	5,790	12,065	24,932,602	2,691	44%
October Draft	6,040	1,697 1,847	2,011 2,244	8,051 8,284	15,755 16,976	46,228,200 49,632,750	5,595 5,821	90% 94%
February Draft	6,040	724 764	1,029 1,148	7,880 8,249	12,557 12,476	21,139,700 21,283,000	681 717	11% 12%

**Includes existing non-conforming units*

District by District

Residence 1

District by District

Residence 1

LOT STANDARDS	October Draft	February Draft
Min. Frontage	80 ft	80 ft
Min. Lot Depth	n/a	n/a
Max. Lot Coverage	30%	25%
Min. Setbacks		
Front	20 ft	25 ft
Side	15 ft	20 ft
Rear	30 ft	40 ft

BUILDING TYPE modifications		October Draft	February Draft
House A	Max. By Right Footprint	2,500 sf	2,400 sf
	Max. Special Permit Footprint	3,000 sf	3,000 sf
House B	Max. By Right Footprint	1,600 sf	1,400 sf
	Max. Special Permit Footprint	2,200 sf	2,000 sf
House C	Max. By Right Footprint	1,400 sf	1,200 sf
	Max. Special Permit Footprint	1,800 sf	1,800 sf
House D	No changes		

District by District

Residence 1

R1 District	Total Existing Buildable Lots	Max. Possible Lots that can be split	Max. Possible Net New Lots	Max. Possible Buildable Lots after splits	Max. Possible Units*	Max. Possible Bulk (sf)	Max. Possible Lots Vulnerable to Speculative Teardown	Max. % at risk of speculative teardowns
Current Ordinance	3,541	48	59	3,600	3,677	22,951,033	1,565	42%
October Draft	3,594	401 413	486 501	4,080 4,095	4,080 4,095	24,760,500 25,585,750	2,241 2,365	61% 64%
February Draft	3,594	386 407	469 494	4,064 4,088	4,063 4,088	22,473,700 25,461,000	1,679 2,349	46% 64%

**Includes existing non-conforming units*

Take Home Material

Conformity Tables

Minimum Rear Setbacks

1st Draft District	The Real World Deciles *We'd have X% conforming if the minimum was set at __*	Current Ordinance Rules *and conformance estimate*	October Draft Rear *Setback & conformance*	Proposed Adjustments *Rear Setback @ 60% conformance*
R1 3688 lots	10% conforming - 99.0 ft 20% conforming - 78.21 ft 30% conforming - 66.12 ft 40% conforming - 56.99 ft 50% conforming - 48.26 ft 60% conforming - 40.8 ft 70% conforming - 31.45 ft 80% conforming - 20.9 ft 90% conforming - 0 ft *(range 0 -765.31 ft)*	SR1 old = 25 ft SR1 new = 25 ft ~75% conformance	30 ft min. rear setback ~70% conformance	40 ft min. rear setback 60% conformance
R2 12455 lots	10% conforming - 75.91 ft 20% conforming - 58.61 ft 30% conforming - 48.9 ft 40% conforming - 41.97 ft 50% conforming - 36.15 ft 60% conforming - 30.62 ft 70% conforming - 24.18 ft 80% conforming - 16.23 ft 90% conforming - 0 ft *(range 0 – 510.01 ft)*	R2 old = 15 ft SR2 new = 15 ft SR3 old = 15 ft SR3 new = 15 ft ~82% conformance	20 ft min. rear setback ~75% conformance	30 ft min. rear setback 60% conformance
R3 6189 lots	10% conforming - 69.81 ft 20% conforming - 51.8 ft 30% conforming - 42.33 ft 40% conforming - 34.85 ft 50% conforming - 27.86 ft 60% conforming - 21.95 ft 70% conforming - 15.52 ft 80% conforming - 9.08 ft 90% conforming - 0 ft *(range 0 – 254.23 ft)*	MR1 old = 15 ft MR1 new = 15 ft MR2 old = 15 ft MR2 new = 15 ft ~70% conformance	15 ft min. rear setback ~70% conformance	20 ft min. rear setback ~62% conformance
N	10% conforming - 74.55 ft 20% conforming - 53.78 ft 30% conforming - 42.43 ft 40% conforming - 32.61 ft 50% conforming - 23.11 ft	MR2 old = 15 ft MR2 new = 15 ft BU2 = 0 ft or abutting residential/ public	15 ft min. rear setback	20 ft min. rear setback

Conformity Tables show the real world setbacks and how they relate to the current ordinance, October Draft, and February Draft

Thank You!