

CITY OF CAMBRIDGE

COMMUNITY DEVELOPMENT DEPARTMENT

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To: Ordinance Committee and Planning Board

From: Swaathi Joseph, Associate Zoning Planner

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Date: September 30, 2016

Re: Riverside Neighborhood Protective Zoning Proposal (Refiled)

Overview

The Riverside Neighborhood Protective Zoning petition, which has been refiled, proposes that portions of the Residence C-1 base zoning district in the area bounded by Putnam Avenue, Franklin Street and River Street be rezoned to Residence C (refer to *Riverside Existing Zoning* map). The petition was heard by the Planning Board and the Ordinance Committee in May, 2016, and at both hearings it was suggested that further analysis be conducted and additional options explored with the petitioners.

Based on the prior recommendations, CDD staff conducted the following additional analysis:

- Explore the possibility of a Neighborhood Conservation District with the Historical Commission (Planning Board recommendation)
- Compare the existing conditions of the petition area to the area in Cambridgeport currently zoned Residence C.
- Explore alternative district boundaries for the petition area.
- Consider zoning provisions to specifically address additional infill development, while still allowing modest expansions to existing dwellings.

Staff recently met to review this information with representatives of the petitioners to review this additional information and discuss alternative proposals that could be supportable. Depending on what approach is found to be favorable, either the current petition could be amended or a substitute petition could be filed.

This report focuses on responses to the recommendations from the prior hearings. The CDD staff report from May, which includes more background about zoning and planning for the area, is also available along with this report on the CDD web site:

http://www.cambridgema.gov/CDD/zoninganddevelopment/Zoning/Amendments

Neighborhood Conservation District

Per the Planning Board's recommendation, CDD staff consulted with staff of the Cambridge Historical Commission (CHC) to discuss the process for establishing a Neighborhood Conservation District (NCD). NCDs are a regulatory mechanism that allows an appointed commission to review and approve new construction, demolition, and alterations (insofar as they involve publicly-visible features), though not the use, of buildings within an identified NCD.

The process typically begins with a petition from a group of residents who wish to create such a designation for their neighborhood. The CHC would then authorize the creation of a study committee, to be appointed by the City Manager, who would work with CHC staff in a public process to identify the architectural characteristics that define the community, determine a specific boundary for the area, and propose criteria, guidelines and a review process to regulate future construction and alterations. This study process may take a year or more, and alterations during that time would undergo a review process as if the NCD were already established. At the end of the study, the commission would hold a public hearing to determine the extent of public support for the measure. The Commission would forward a positive recommendation to the City Council, which would then deliberate and vote on whether or not to establish the district.

A petition for an NCD does not necessarily result in the district being established. Therefore, it is important to the CHC that a proposal for a NCD have genuine, broad-based support from the community, given the time and effort it takes to establish, and the impact that it could have on residents and property owners that wish to develop or alter their properties.

District Comparison with Cambridgeport

Previously, CDD provided an analysis of the proposed Residence C zoning district as it relates to the existing conditions in the Riverside neighborhood. At the suggestion of the Ordinance Committee, the same analysis was conducted for the Cambridgeport Residence C district to provide a basis for comparison.

Land Use

Both areas are dominated by 1-2 family residences and multi-family residences. A few parcels have group residential use (assisted living/boarding houses, educational residential), mixed use (residential + commercial) and non-residential uses (commercial, office, industrial, charitable/religious, education).

Land Use Category	Cambridgeport C District	Riverside Petition Area	Entire Riverside C-1 District
1-2 residential units	465	188	307
3+ residential units	332	161	285
Group residential use	6	0	4
Mixed use	3	11	20
Non-residential use	20	12	23
Transportation	4	0	3
Public open space	1	1	1
Vacant	3	1	3

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FAR

The table below shows the distribution of FAR across lots within the districts that are studied. In the Cambridgeport study area, like in Riverside, the majority of parcels exceed the FAR limit of 0.6 in Residence C. However, while approximately 73% of the parcels do not conform to the FAR limit in the Cambridgeport study area, nearly 81% of the parcels would not be conforming in either the Riverside petition area or in the Riverside C-1 district at large.

FAR ¹	Cambridgeport C	Riverside Petition	Entire Riverside C-1
	District	Area	District
Greater than 0.75	442 (53%)	220 (59%)	398 (62%)
0.6 – 0.75	170 (20%)	80 (22%)	120 (19%)
Less than 0.6	222 (27%)	72 (19%)	121 (19%)

Ratio of Open Space to Lot Area

Analysis of the proportion of open space on a lot reveals a similar finding, with nearly 72% of the parcels meeting the required ratio for at least 36% of the lot to be open space in the Cambridgeport Residence C zone, compared with 69% in the Riverside petition area and 67% in the entire Riverside C-1 area. It should be noted here that conformance with the open space ratio can be difficult to determine at an aggregate level, because the required open space must also meet minimum dimensional and permeability standards.

Ratio of Open Space to Lot	Cambridgeport C	Riverside Petition	Entire Riverside C-1
Area	District	Area	District
Less than 30%	144 (17%)	71 (20%)	137 (21%)
30% - 36%	95 (11%)	42 (11%)	74 (12%)
Greater than 36%	595 (72%)	257 (69%)	431 (67%)

Lot Area per Dwelling Unit

The results of the lot area per dwelling unit analysis are similar to those for FAR. Nearly 56% of the parcels do not meet the unit density requirement of 1800 sq. ft. per dwelling unit in the Cambridge Residence C area, while approximately 70% of the parcels would not conform to that same requirement with the proposed conversion to Residence C in the Riverside petition area.

Lot Area / Dwelling Unit	Cambridgeport C District	Riverside Petition Area	Entire Riverside C-1 District
Less than 1500 sq.ft./DU	348 (43%)	203 (56%)	358 (58%)
1500 - 1800 sq.ft./DU	107 (13%)	51 (14%)	73 (12%)
Greater than 1800 sq.ft./DU	352 (44%)	106 (30%)	184 (30%)

Conclusions

As observed at the Ordinance Committee hearing, it is true that the Residence C district in Cambridgeport has a high number of parcels that exceed the density limitations of the district. With the

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¹ Gross Floor Area used for FAR calculation includes basement and cellar living space with 7 feet or more height in all buildings including single-family and two-family homes.

proposed conversion to Residence C, the Riverside petition area would result in a level of non-conformance that would further exceed the level of non-conformance in Cambridgeport.

Alternative District Boundaries

As a way to address the Ordinance Committee's suggestion that a different petition boundary might be more appropriate to be rezoned, CDD staff conducted a block-level analysis of average FAR and Lot Area per Dwelling Unit of the entire Riverside C-1 area (refer to *Riverside Study Area Existing Floor Area Ratio for Parcels Grouped in Blocks & Riverside Study Area Lot Area per Dwelling Unit for Parcels Grouped in Blocks* maps).

Review of those maps reveals that very few blocks in the petition area have an average FAR and lot area per dwelling unit that comply with existing Residence C-1 requirements, let alone Residence C requirements. However, there are some blocks that are, on average, somewhat less densely developed than surrounding blocks. These include some blocks in the central part of the neighborhood, in the vicinity of Kinnaird Street, Jay Street and Howard Street. While rezoning these blocks to Residence C would still result in FAR and lot area per dwelling unit non-conformities, the overall impact may be less than in the neighborhood as a whole.

Another analysis conducted in response to this question was to assess where parcels are located that might be able to construct additional dwelling units on their lot. This analysis looked only at lots with sufficient lot area to increase the number of dwelling units as well as some ability to increase FAR, but did not analyze other requirements like open space, parking and setbacks, which would further limit such additions. The attached *Riverside Study Area Parcels That Could Add Dwelling Units* map shows 72 parcels that might accommodate at least one additional unit under Residence C-1 density limits, which would reduce to 13 parcels with the proposed conversion to Residence C. These parcels are fairly dispersed throughout the neighborhood with little obvious "clustering," although it is notable that under Residence C zoning, nearly all of the parcels that might have the ability to add units are located outside of the petition area.

Alternative Provisions to Control Infill Development

The Ordinance Committee suggested investigating alternative zoning approaches that would address the issue of residential infill in a more targeted way that would have less of a generalized impact on homeowners that may only wish to make modest expansions or additions to their homes. This is a challenging task, because while it is possible to adjust individual zoning requirements, it is difficult to predict the outcome when new zoning requirements are applied along with the full set of existing zoning requirements, building codes and other factors that constrain development on a site. The best way to evaluate such a change would be through a holistic study of all zoning requirements, which is beyond the scope of this analysis.

However, staff has provided four possible approaches that could be pursued, based on approaches used at other times and in other districts. Each of these would have a different balance between their effectiveness at achieving what is intended and risk of unintended outcomes. These approaches are summarized below and explained further.

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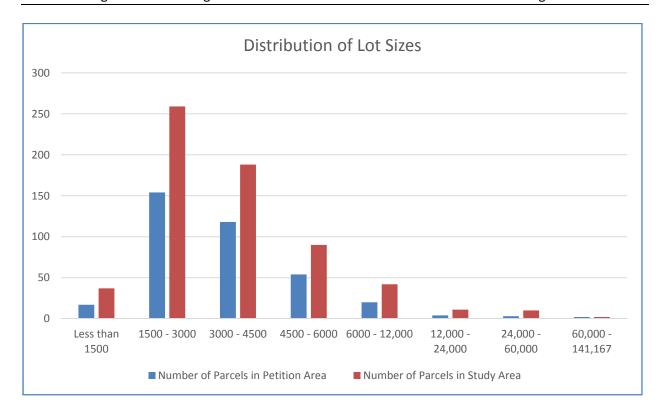
Approach	Potential Effectiveness	Potential Risks
Unit Density Approach: Increase required lot area per dwelling unit, keeping constant FAR	Simple approach to implement; impacts added units without impacting expansion in size of home	Does not prevent all infill; increases overall nonconformity; encourages larger unit sizes
Open Space Approach: Increase required private open space, keeping constant density	Simple approach to implement; preserves open space with less impact on development rights	Less impact on nonconformity; potential conflict with parking/driveway requirements
Setback Approach: Adjust rear yard setbacks	More direct response to issue of rear yard encroachment	Setbacks are already constrained; could result in more height, density along the street
Multiple Structures Approach: Create standards or review process for multiple structures on a lot	Specifically addresses the "rear infill house" scenario; can allow for creative solutions	Multiple structures are not the sole neighborhood concern; multiple structures might sometimes be preferable to one large structure

One additional consideration is that these regulations would not need to be applied uniformly to every lot. The point was raised at the hearings that there could be regulations that are less restrictive for smaller lots, but become more restrictive as lots become larger and thus have greater development potential. The Residence B district has examples of this approach, where the allowed density is reduced for portions of a lot exceeding 5,000 square feet, and rear setbacks are increased for lots that are longer than 100 feet. However, such nuanced approaches can have a downside, because the size and shape of lots can vary widely, and so it becomes more difficult for property owners and their neighbors to predict what kinds of changes might be possible on a given lot.

The following chart and histogram show the distribution of lot sizes within the neighborhood and the petition area.

Lot Area in square feet	Number of Parcels in Petition Area	Number of Parcels in Study Area (all Riverside C-1)
Less than 1500	17 (4.6%)	37 (5.8%)
1500 - 3000	154 (41.4%)	259 (40.5%)
3000 - 4500	118 (31.7%)	188 (29.4%)
4500 - 6000	54 (14.5%)	90 (14.1%)
6000 - 12,000	20 (5.4%)	42 (6.6%)
12,000 - 24,000	4 (1.1%)	11 (1.7%)
24,000 - 60,000	3 (0.8%)	10 (1.6%)
60,000 - 141,167	2 (0.5%)	2 (0.3%)

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Unit Density Approach

The first two alternative approaches would simply take elements of the proposed Residence C zoning and apply them in part rather than as a whole. They could be accomplished by creating a new base zoning designation or an overlay district.

One approach is to raise the minimum lot area per dwelling unit – effectively reducing the number of dwelling units that would be allowed on a given lot – while keeping FAR constant. This means that property owners would not be further restricted if they wanted to increase the size of a house, but would be more restricted if they wanted to add a new dwelling unit to a lot.

Because the analysis shows that many existing lots are already built to a higher unit density than allowed, this could also result in scenarios where the number of units on a lot is reduced – for instance, by demolishing an existing home or by consolidating a two-family dwelling to become a single-family dwelling – and could not be increased again in the future, causing a slow reduction in the total housing supply over time.

Another long-term impact of such a change is that it would encourage larger unit sizes overall, which may contribute to the stock of family-size housing units but may also contribute to increasing housing costs, since larger units tend to be priced higher.

Finally, while the analysis shows that such a change would significantly reduce the already low number of lots that have the potential for added dwelling units, there would still be some rare cases where a lot could increase the number of units. In these cases, the dimensional zoning controls would be the same, and so over time, there would still be some developments that add units to lots, but in much lower numbers.

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Open Space Approach

As a variation on the above approach, the required open space on a lot could be increased from the current Residence C-1 requirement (30%) to the Residence C requirement (36%), keeping density limitations the same. Also, both the unit density and open space approaches could be implemented, as was done during the last significant citywide change to the Residence C-1 requirements in 1997. This rezoning effort, known as the "backyard rezoning," increased the minimum lot area per dwelling unit from 1,200 square feet to 1,500 square feet and increased the required open space from 15% to 30% of a lot. The intent was to restrict infill development in residential yards, which was a concern for residents in many neighborhoods at that time.

One benefit of the open space approach is that it most directly addresses one of the main concerns expressed by the petitioners, which is the preservation of open space and permeable area in the neighborhood. Also, as shown in the analysis, it seems that many more existing lots in the neighborhood tend to conform to open space requirements, though they exceed density limitations.

However, open space is a more complicated requirement and the analysis does not necessarily capture all of its nuances. For instance, at least half of required open space must be "usable," meaning that it has at least a 15-foot square dimension, which would not include narrow strips of land on the edges of lots. Analyzing conformance with this requirement across an entire neighborhood was not feasible. At least half of required open space must also be permeable, which is similarly not verifiable across a neighborhood given available data.

Another complication is parking. Many units in the neighborhood were not built with off-street parking, but for any new units that are created (or homes that are reconstructed) a minimum of one parking space per dwelling unit is required. It could be difficult or impossible to fit the required parking (which includes driveways) and required open space on the surface of a lot. This could result in parking located in less desirable places like at the fronts of lots (to reduce the space taken up by driveways to the rear of the lot), within the ground floors of buildings, or in semi-depressed basements. It could also result in more requests for relief from parking requirements.

Setback Approach

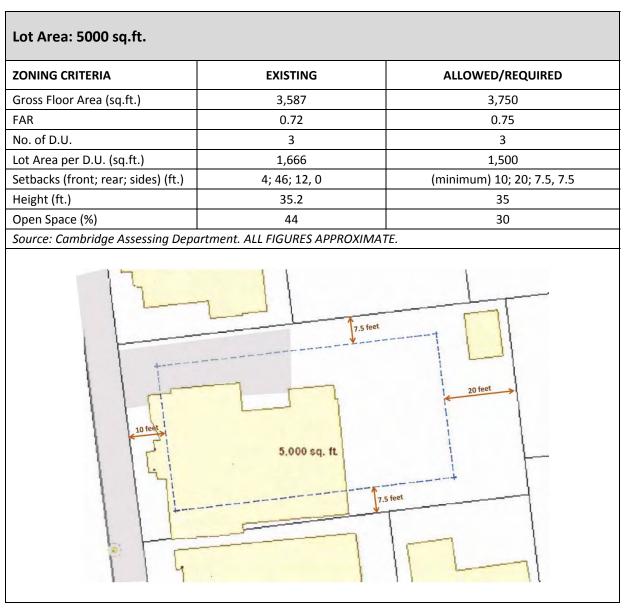
Another approach that more directly addresses the issue of development in backyards, without specifically addressing density, would be to adjust yard (also referred to as setback) requirements for lots. This becomes challenging because the current yard requirements are already complicated and restrictive.

In both Residence C and C-1, the "base" minimum front setback is 10 feet, rear setback is 20 feet, and side setbacks are each 7.5 feet. However, there are additional "formula" setback requirements that depend on the height ("H") and length ("L") of the building where it faces a particular lot line, which can often be more restrictive than the base setbacks. For example, in both Residence C and C-1, the front and rear formula is "(H+L)/4," meaning that for a building that is 30 feet tall and 30 feet long (measured side-to-side), the front and rear setbacks must each be at least 15 feet [(30+30)/4]. Therefore, a building must be set back an additional 5 feet beyond the minimum 10-foot front setback, but still retain the 20-

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foot minimum rear setback. The requirements become more complicated where buildings have different sections with different heights and lengths.

The purpose of this example is to illustrate that increased rear yard setbacks might not have much impact on the outcome of projects unless corresponding relief is granted to front and/or side yard setbacks. For another example, below is the site plan of a parcel in Riverside. While this parcel conforms to the C-1 density limitations, and has a generous backyard exceeding the required 20-foot rear setback, it does not conform to the base front and side yard requirements (let alone the formula requirements). This condition is typical for many lots in Riverside and other neighborhoods. The result is that when a lot has the potential to expand, the most conforming way to create an addition (or to build an additional structure) is to add to the rear of the lot.



However, requiring more restrictive rear setbacks could have undesired consequences. Older homes, which serve to define the architectural character of the neighborhood, tend to be built close to the front

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lot lines. If expansion in the rear yards is more greatly restricted, it might cause property owners to seek alterations and enlargements to the more historic front portions of buildings, or even seek approval for tear-downs and reconstruction.

Multiple Structures Approach

In districts that allow only single-family, two-family and townhouse dwellings, there are restrictions on building multiple detached dwellings on a single lot. In Residence A-1 and A-2 districts, which allow only single-family homes and exist in small portions of the city such as Brattle Street and Avon Hill, multiple dwellings on a lot are prohibited. In Residence B, which makes up larger portions of the city west of Harvard Square, multiple detached dwellings on a lot are allowed only if all are within 75 feet of the street, or with a special permit from the Planning Board, which must find that allowing two structures results in a better site design than multiple dwellings in a single structure.

Either of these approaches, or a similar regulation applying only to a lot with multiple structures, could be considered to control the construction of separate dwelling units in the rear of lots. Some of the considerations would be the same as for increased rear setback requirements – for instance, would constraining the development of rear structures result in more significant alterations to existing structures at the fronts of lots.

The experience of implementing the special permit provision in Residence B has helped to understand the issues that tend to emerge in these development scenarios. The development of rear structures is often controversial given the immediate impact it might have on directly abutting properties. However, in most cases, it can be shown that as-of-right development in the form of a single structure could have a more negative impact on the aesthetic character of the neighborhood when compared to the development of two smaller structures. Often these issues have been worked out during the special permit review process, but sometimes resolution cannot be reached.

Conclusions

It is staff's hope that this additional study might help the Ordinance Committee, Planning Board and neighbors consider a range of approaches (which also includes the approach of the current petition, and, as always, not making any zoning change is an option) and determine a way to move forward that would best meet the objectives of the neighborhood as a whole while limiting the risk of unintended or undesired impacts. Staff could then assist further in developing the preferred approach into a specific proposal. Depending on how much the final proposal varies from the current petition, it might be substituted for the current petition, or might need to be filed as a new petition for additional hearings before final action can be taken.

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List of Maps:

- Riverside Existing Zoning
- Riverside Study Area Land Use and Residential Units
- Riverside Study Area Existing Floor Area Ratio
- Riverside Study Area Open Space Requirements
- Riverside Study Area Lot Area per Dwelling Unit
- Cambridgeport Residence C Existing Zoning
- Cambridgeport Residence C Land Use and Residential Units
- Cambridgeport Residence C Existing Floor Area Ratio
- Cambridgeport Residence C Open Space Requirements
- Cambridgeport Residence C Lot Area per Dwelling Unit
- Riverside Study Area Existing Floor Area Ratio for Parcels Grouped in Blocks
- Riverside Study Area Lot Area per Dwelling Unit for Parcels Grouped in Blocks
- Riverside Study Area Parcels That Could Add Dwelling Units

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