W-ZHA, LLC

DRAFT MEMORANDUM

TO: Iram Farooq, City of Cambridge

FROM: Sarah Woodworth, Managing Member

RE: Zoning: Middle-Income Housing

DATE: January 19, 2015

EXECUTIVE SUMMARY

W-ZHA, LLC was retained by the City of Cambridge to evaluate how proposed zoning changes in Central Square may impact private development feasibility. In essence, the proposed zoning changes encourage the provision of workforce-affordable family housing by offering developers an increase in a site's floor area ratio. For purposes of this analysis, workforce-affordable family housing is defined as a 3 bedroom unit affordable to households with an annual income that is 80 percent of the areawide median income. This translates into a family with an annual income of about $75,500.[1]

A 40,000 square foot site was assumed for this analysis. The zoning changes were tested on three development scenarios: a residential project; a mixed-use project incorporating residential, retail and office uses; and a mixed-use project incorporating residential, retail and laboratory space. W-ZHA worked with City staff and interviewed local developers to ascertain reasonable development cost and operating assumptions for residential, office and laboratory land uses.

The analysis indicates that the workforce-affordable family housing provisions challenge private development feasibility for a purely residential project and a mixed-use office, residential and retail project. The increase in density does not offset the cost of incorporating three-bedroom apartments at discounted rates. The developer does not achieve a reasonable yield on their investment.

Under a mixed-use scenario with lab space, the developer can achieve an adequate yield on investment with the workforce-affordable housing units. This is because the lab use generates sufficient investment return to subsidize the residential component. In practice, the lab use would pick up more of its fair share of the land value, thereby making the residential project financially more attractive.

[1] These provisions targeting affordable family housing are in addition to the City's current affordable housing policy which targets households earning at a maximum 60 percent of the areawide median income.

W-ZHA, LLC

INTRODUCTION

W-ZHA was retained by the City of Cambridge to evaluate how proposed zoning changes in Central Square may impact private development feasibility. W-ZHA performed a yield analysis to determine whether a project would generate sufficient net operating income to justify the cost and risk of developing the project.

A 40,000 square foot site was assumed for this analysis. The zoning changes were tested on three development scenarios: a residential project; a mixed-use project incorporating residential, retail and office uses; and a mixed-use project incorporating residential, retail and laboratory space. W-ZHA worked with City staff and interviewed local developers to ascertain reasonable development cost and operating assumptions for residential, office and laboratory land uses.

RESIDENTIAL LAND USE

Development Program: Existing Zoning and Proposed Zoning

The proposed zoning allows for more height and a lower minimum parking requirement. To realize the maximum intensity of use provided by the proposed zoning, a project must incorporate dwellings units affordable to middle-income households. The middle income units were assumed to be three bedroom with an average size of 1,300 net square feet per unit.

Development Program
Residential-Only Scenario
Existing and Proposed Zoning

		Existing Zoning	Proposed Zoning
Maximum FAR		3.0	4.0
Maximum Height		80	140
Assumption: Stories Built		6	12
Units	Avg NSF		
Market Rate	810	141	179
Affordable	810	18	24
Middle Income	1,300	0	8
Total Units		159	211
Parking			
Parking Space /Unit		1.0	0.5
Parking Spaces		159	106

Source: City of Cambridge; W-ZHA

E:\New Folder (2)\[memo.xlsx]resi

W-ZHA, LLC

The table above summarizes the development program for a residential project under existing and proposed zoning. A 40,000 square foot site is assumed. Under proposed zoning a developer can build 211 units on the site versus 159 units under today's zoning. Eight of these units must be affordable to families' earning 80 percent of the area's median income.

Net Operating Income: Existing and Proposed Zoning

Average Rental Rates Per Square Foot
Residential Land Uses
Central Square, Cambridge

	Existing Zoning	Proposed Zoning
Market Rate	$3.91	$4.10
Affordable	$1.40	$1.40
Middle Income	na	$1.30

Source: City of Cambridge; W-ZHA
E:\New Folder (2)\[memo.xlsx]rent

Market rent is assumed to be $3.91 per square foot. There are rent premiums for views on the upper floors of residential buildings. A 2 percent rent premium was applied for each floor above the 5th floor of the building.

Net Operating Income
Residential-Only Scenario
Central Square, Cambridge

	Existing Zoning	Proposed Zoning
Net Operating Income	$3,834,000	$5,103,600
/Unit	*$24,113*	*$24,188*

Source: City of Cambridge; W-ZHA
E:\New Folder (2)\[memo.xlsx]Sheet5

The net operating income per unit remains essentially the same under existing and proposed zoning. While there are rent premiums for the additional height, the low rental income from affordable and middle-income housing offsets this benefit.

W-ZHA, LLC

Development Cost: Existing Zoning and Proposed Zoning

Development Cost Residential-Only Scenario Existing and Proposed Zoning					
		Existing Zoning		Proposed Zoning	
Building GSF			155,169		210,307
Land Acquisition			$8,250,000		$8,250,000
Demolition			$140,000		$140,000
		/Sq Ft		/Sq Ft	
Hard Cost		$170	$26,378,700	$285	$59,937,600
Soft Cost	30%		$7,913,610		$17,981,300
Building Development Cost			$34,292,300		$77,918,900
	/Space	Spaces		Spaces	
Parking Cost	$100,000	159	$15,900,000	106	$10,600,000
Total Development Cost			$58,582,300		$96,908,900

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]resl cost

Land cost was held constant between the two scenarios. Land cost was assumed to be $75 per FAR foot given today's zoning. Under existing zoning, developers will likely construct a stick-built building. This type of construction is less expensive than the cost to develop a twelve story building. Underground parking at $100,000 per space was assumed for both scenarios.

Yield: Existing Zoning and Proposed Zoning

A project's yield is simply a project's net operating income divided by its development cost. This indicator reflects how the real estate performs. A reasonable yield threshold for a developer is typically between 6 percent and 6.5 percent. While some developers may be willing to undertake projects for a lower yield because of today's low interest rates, for public policy purposes, it is reasonable to assume 6 percent to 6.5 percent.

Yield On Investment Residential-Only Scenario Existing and Proposed Zoning		
	Existing Zoning	**Proposed Zoning**
Net Operating Income	$3,834,000	$5,103,600
Development Cost	$58,582,300	$96,908,900
Yield	6.5%	5.3%
Yield Threshold	**6% - 6.5%**	

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]Sheet7

Given the assumptions, a residential project is feasible under existing zoning, but not feasible under the proposed zoning. The net operating income does not justify the cost to develop the project.

MIXED-USE: RESIDENTIAL, LAB, AND RETAIL

Development Program: Existing Zoning and Proposed Zoning

Under the mixed-use lab scenario, a residential building and a lab building are developed on the 40,000 square foot site. It is assumed that the residential building will incorporate retail into its ground floor. Retail space will likely be constructed adjacent to the lab building for cost purposes.

W-ZHA, LLC

Development Program
Mixed-Use: Lab/Residential/Retail
Existing and Proposed Zoning

		Existing Zoning	Proposed Zoning
Maximum FAR		3.0	4.4
Maximum Height		80	140
Assumption: Max Stories Built		6	12
Development Program		Square Feet	Square Feet
Lab/Retail Building		56,990	93,245
Lab		*50,600*	*80,000*
Retail		*6,390*	*13,245*
Residential/Retail Building		73,710	103,755
Residential		*70,200*	*101,000*
Retail		*3,510*	*2,755*
Total		130,700	197,000
Units	Avg NSF	Units	Units
Market Rate	810	64	82
Affordable	810	8	11
Middle Income	1,300	0	6
Total Units		72	99
Parking		Spaces	Spaces
Lab/Retail Building		44	64
Residential/Retail Building		74	30
Total		118	94

Source: City of Cambridge; W-ZHA

E:\New Folder (2)\[memo.xlsx]Sheet2

With a mix of uses there is an opportunity for shared parking. An analysis conducted by City staff indicated that 20 of the 50 spaces required to support the residential can be shared with the lab space.

W-ZHA, LLC

Net Operating Income: Existing and Proposed Zoning

Rental Rate Assumptions

Average Rental Rates Per Square Foot
Laboratory, Residential and Retail Uses
Central Square, Cambridge

		Existing Zoning	Proposed Zoning
Laboratory		$65.00	$65.00
Residential			
	Market Rate	$3.91	$4.10
	Affordable	$1.40	$1.40
	Middle Income	na	$1.30
Retail		$30.00	$30.00

Source: City of Cambridge; W-ZHA
E:\New Folder (2)\[memo.xlsx]rent lab

Lab space is assumed to rent at $65 per square foot, triple net. Retail is assumed to rent at $30 per square foot, triple net. Residential rental rates are the same for this scenario as they were in the prior scenario.

Net Operating Income: Total Program

Net Operating Income
Laboratory, Residential and Retail Uses
Central Square, Cambridge

Net Operating Income	Existing Zoning	Proposed Zoning
Lab/Retail Building	$3,237,200	$5,196,400
Residential/Retail Building	$1,827,500	$2,525,600
Total	$5,064,700	$7,722,000

Source: City of Cambridge; W-ZHA
E:\New Folder (2)\[memo.xlsx]noi lab mix

The lab and retail space generate significantly more net operating income per square foot as compared to the residential building.

W-ZHA, LLC

Development Cost: Existing Zoning and Proposed Zoning

Laboratory/Retail Building

Development Cost Laboratory/Retail Building Existing and Proposed Zoning					
		Existing Zoning		Proposed Zoning	
Building GSF			56,990		93,245
Laboratory		*50,600*		*80,000*	
Retail		*6,390*		*13,245*	
Land Acquisition			$3,597,300		$3,904,900
Demolition			$61,000		$66,300
Lab Space					
		/Sq Ft		/Sq Ft	
Hard Cost		$300	$15,180,000	$300	$24,000,000
Soft Cost	23%		$3,491,400		$5,520,000
Building Development Cost			$18,671,400		$29,520,000
Retail Space					
		/Sq Ft		/Sq Ft	
Hard Cost		$170	$1,086,300	$170	$2,251,700
Soft Cost	10%		$108,600		$225,200
Building Development Cost			$1,194,900		$2,476,900
Tenant Improvement					
		/Useable Sq Ft		/Useable Sq Ft	
Lab Space		$175	$8,677,900	$175	$13,720,000
Retail Space		$60	$383,400	$60	$794,700
Tenant Improvements			$9,061,300		$14,514,700
Parking					
	/Space	Spaces		Spaces	
Parking Cost	$100,000	44	$4,400,000	64	$6,400,000
Linkage Payment					
	/Sq Ft	Sq Ft		Sq Ft	
Linkage	$4.44	56,990	$253,000	93,245	$414,000
Total Development Cost			**$37,238,900**		**$57,296,800**

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]lab cost

The lab building is more expensive to develop than the residential building.

W-ZHA, LLC

Residential/Retail Building

Development Cost Residential/Retail Building Existing and Proposed Zoning					
		Existing Zoning		Proposed Zoning	
Building GSF			73,710		101,000
Residential		*70,200*		*98,245*	
Retail		*3,510*		*2,755*	
Land Acquisition			$4,652,700		$4,345,100
Demolition			$79,000		$73,700
Residential Space					
		/Sq Ft		/Sq Ft	
Hard Cost		$170	$11,934,000	$285	$28,785,000
Soft Cost	30%		$3,580,200		$8,635,500
Building Development Cost			$15,514,200		$37,420,500
Retail Space					
		/Sq Ft		/Sq Ft	
Hard Cost		$170	$596,700	$285	$785,175
Soft Cost	30%		$179,000		$235,600
Building Development Cost			$775,700		$1,020,775
		/Useable Sq Ft		/Useable Sq Ft	
Tenant Imp. Retail		$60	$210,600	$60	$165,300
Sub-Total Lab Space			$16,500,500		$38,606,575
Parking					
	/Space	Spaces		Spaces	
Parking Cost	$100,000	74	$7,400,000	30	$3,000,000
Linkage Payment					
	/Sq Ft	Sq Ft		Sq Ft	
Linkage	$4.44	3,510	$15,600	2,755	$12,200
Total Development Cost			**$28,647,800**		**$46,037,600**

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]resi cost w lab

As discussed in the prior residential-only scenario, the cost to develop a 12-story residential building is more expensive on a per square foot basis than the cost to develop a low-rise, stick-built building.

W-ZHA, LLC

Yield: Lab, Residential, and Retail Mix

As demonstrated on the following table, the lab/retail building exceeds the minimum yield threshold and residential does not satisfy the yield threshold. If built (or coordinated) as one project, the blended investment yield is reasonable. Essentially, the lab building would subsidize the residential building. The lab building's economics make it feasible for the residential to incorporate units affordable to middle-income households.

Proposed Zoning: Investment Yield Mixed-Use Project		
Lab/Retail	**Existing Zoning**	**Proposed Zoning**
Net Operating Income	$3,237,200	$5,196,400
Development Cost	$37,238,900	$57,296,800
Yield	***8.7%***	***9.1%***
Yield Threshold	**7.75% - 8.25%**	
	Existing Zoning	**Proposed Zoning**
Residential/Retail		
Net Operating Income	$1,827,500	$2,525,600
Development Cost	$28,647,800	$46,037,600
Yield	***6%***	***5.5%***
Yield Threshold	**6% - 6.5%**	
	Existing Zoning	**Proposed Zoning**
Project: Residential & Lab & Retail		
Net Operating Income	$5,064,700	$7,722,000
Development Cost	$65,886,700	$103,334,400
Yield	***7.7%***	***7.5%***
Yield Threshold	**7.25%+**	

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]Sheet4

W-ZHA, LLC

MIXED-USE: RESIDENTIAL, OFFICE, AND RETAIL

Development Program: Mixed-Use Office, Residential and Retail

Development Program Mixed-Use: Office/Residential/Retail Existing and Proposed Zoning					
		Existing Zoning		Proposed Zoning	
Base FAR - Office		1.265		2.0	
Base FAR - Residential		1.35		2.0	
Base FAR - Retail		0.2475		0.4	
Base FAR - Total		2.8625		4.4	
Maximum FAR		3.0		4.4	
Maximum Height		80		140	
Assumption: Max Stories Built		6		12	
Development Program		Square Feet		Square Feet	
Office/Retail Building			56,990		93,245
Office		*50,600*		*80,000*	
Retail		*6,390*		*13,245*	
Residential/Retail Building			73,710		103,755
Residential		*70,200*		*101,000*	
Retail		*3,510*		*2,755*	
Total			130,700		197,000
Units	Avg NSF	Units		Units	
Market Rate	810	64		82	
Affordable	810	8		11	
Middle Income	1,300	0		6	
Total Units		72		99	
Parking		Spaces		Spaces	
Office/Retail Building		44		64	
Residential/Retail Building		74		30	
Total		118		94	

Source: City of Cambridge; W-ZHA

E:\New Folder (2)\[memo.xlsx]off prog

The mixed-use development program with office space is the same as it is with lab space except the lab space is replaced with office space. Under the proposed zoning, a mixed-use project can take advantage of shared parking opportunities and reduce the number of parking spaces built on-site.

W-ZHA, LLC

Development Cost: Office and Retail Building

Development Cost Office/Retail Building Existing and Proposed Zoning					
		Existing Zoning		Proposed Zoning	
Building GSF			56,990		93,245
Office		*50,600*		*80,000*	
Retail		*6,390*		*13,245*	
Land Acquisition			$3,597,300		$3,904,900
Demolition			$61,000		$66,300
Office Space					
		/Sq Ft		/Sq Ft	
Hard Cost		$190	$9,614,000	$190	$15,200,000
Soft Cost	25%		$2,403,500		$3,800,000
Building Development Cost			$12,017,500		$19,000,000
Retail Space					
		/Sq Ft		/Sq Ft	
Hard Cost		$190	$1,214,100	$190	$2,516,600
Soft Cost	25%		$303,500		$629,200
Building Development Cost			$1,517,600		$3,145,800
Tenant Improvement					
		/Useable Sq Ft		/Useable Sq Ft	
Office Space		$60	$2,254,700	$60	$3,404,500
Retail Space		$60	$383,400	$60	$794,700
Tenant Improvements			$2,638,100		$4,199,200
Parking					
	/Space	Spaces		Spaces	
Parking Cost	$100,000	51	$5,100,000	64	$6,400,000
Linkage Payment					
	/Sq Ft	Sq Ft		Sq Ft	
Linkage	$4.44	56,990	$253,000	93,245	$414,000
Total Development Cost			**$25,184,500**		**$37,130,200**

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]Sheet6

An office/retail building is less expensive to develop than a laboratory building. The building costs are lower as is the tenant improvement allowance.

W-ZHA, LLC

Total Development Cost: Mixed-Use Office, Residential and Retail

The residential program is the same under both the lab and office scenarios. Therefore, the cost to develop the residential/retail building in this scenario is the same as it is in the lab scenario.

Total Development Cost
Office, Residential and Retail Uses

	Existing Zoning	Proposed Zoning
Office/Retail Building	$25,184,500	$37,130,200
Residential/Retail Building	$28,647,800	$46,037,600
Total Program	$53,832,300	$83,167,800

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]Sheet9

Yield: Office, Residential, and Retail Mix

Proposed Zoning: Investment Yield
Office, Residential and Retail Uses

Office/Retail	**Existing Zoning**	**Proposed Zoning**
Net Operating Income	$1,992,000	$3,205,000
Development Cost	$25,184,500	$37,130,200
Yield	***7.9%***	***8.6%***
Yield Threshold	**7.75% - 8.25%**	
	Existing Zoning	**Proposed Zoning**
Residential/Retail		
Net Operating Income	$1,827,500	$2,525,600
Development Cost	$28,647,800	$46,037,600
Yield	***6%***	***5.5%***
Yield Threshold	**6% - 6.5%**	
	Existing Zoning	**Proposed Zoning**
Project: Residential & Office & Retail		
Net Operating Income	$3,819,500	$5,730,600
Development Cost	$53,832,300	$83,167,800
Yield	***7.1%***	***6.9%***
Yield Threshold	**7.25%+**	

Source: W-ZHA

E:\New Folder (2)\[memo.xlsx]Sheet11

The office/retail building exceeds the minimum yield threshold under existing and proposed zoning. The residential/retail building does not satisfy the yield threshold under proposed zoning. If built or

coordinated as one project, the blended investment yield does not satisfy the yield threshold. The office building's economics are not strong enough to justify residential development under proposed zoning.

CONCLUSION

The analysis indicates that developers will not pursue residential projects or projects with a mix of office, residential and retail land uses if there is a requirement that workforce-affordable, three bedroom units are required to be part of the building's unit mix. In these cases, developers will not achieve the minimum investment return necessary to justify the project's development.

The analysis does indicate that if a mixed-use project has a significant lab component it may be feasible to develop a residential project with the workforce-affordable units. The lab space will subsidize the residential project.

If developers were able to provide workforce-affordable housing units in a less expensive building-type, the zoning may be workable. The City of Cambridge may want to consider allowing developers to provide workforce-affordable units off-site, but within the neighborhood.