

MEMORANDUM

To: Chadrick Smalley, City of Emeryville

From: Benjamin C. Sigman and Chinmay Damle,
Economic & Planning Systems

Subject: 5850 Shellmound Residential Feasibility Review

Date: February 10, 2022

The Economics of Land Use



The City of Emeryville is processing an application for redevelopment of 5850 Shellmound Way, where CA Ventures and Shellmound Christie Corp. (SCC) are proposing a 400,000-square-foot building on about 1.5 acres. The application for development proposes a 265-foot-tall building with 390,000 square feet of research and development space, 10,000 square feet of ground-floor clinics and other space, along with more than 400 parking spots. The site is located in the City's MUR (Mixed Use with Residential) zone, which requires development of residential land use.

Typically, development in the MUR zone must include two or more land uses, one of which must be residential. The applicant has indicated that residential use of the site is not feasible due to high construction costs and insufficient rental rates. To validate and document residential feasibility concerns, the applicant has provided the City an "Emeryville Residential Analysis" dated December 2021. In order to approve the non-residential project proposal, the City must find that "That the applicant has convincingly demonstrated that it is infeasible to develop a project with a mix of use groups on the site" (Section 9-3.303(c)). More simply put, the applicant must credibly demonstrate that development of residential real estate is infeasible at the site.

To assist the City in determining whether the applicant has sufficiently demonstrated the financial feasibility challenge facing residential development at the Shellmound Way site, the City engaged Economic & Planning Systems (EPS) to conduct a review of CA Ventures economic analysis. This memorandum provides a review that evaluates whether expected residential project revenue actually is insufficient to justify development costs, factoring in a market competitive rate of return on the investment. In doing so, EPS conducted a thorough review of the applicant's, including:

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- Assumptions concerning market value, development cost, and investment return;
- Methodology for estimating the financial feasibility; and
- Accuracy of the mathematics employed.

EPS reviewed documentation provided by the CA Venture's Emeryville Residential Analysis and cross-checked these data against third-party data sources, including real estate market data and construction cost data. EPS also confirmed the architecture of the financial model analysis and spot-checked calculations. Lastly, EPS developed its own in-house model to replicate elements of the applicant analysis and to stress test key assumptions.

EPS conducted this review based on information provided to EPS by CA Ventures in consultation with City staff, including:

- Emeryville Residential Analysis, December 2021 (attached).
- Supplementary information provided by CA Ventures, including residential market data detail, development program detail, and development budget detail.
- City staff analysis of permitting charges and development impact fees.

The EPS review of real estate market conditions and construction costs relied on data from CoStar Group and Marshall & Swift, respectively.

KEY FINDINGS

- **EPS concurs with CA Ventures assessment that a building that mixes residential and life science laboratories in a vertical format is unlikely to be market supportable or financeable.** While some large projects combine housing and laboratories in close proximity but in separate buildings, EPS has not identified any precedent for residential uses and laboratories within the same building envelope. Even office/residential vertical mixed-use projects are rare, and life sciences laboratory uses have additional, demanding requirements related to hazardous materials loading and storage, indoor air handling and quality, emergency egress, and other factors that make it unlikely to mix well with residential uses.
- **EPS finds the CA ventures feasibility assessment of a 244-unit residential project with ground-level retail to be reasonable and concurs with the finding the project is infeasible in today's market.** EPS reviewed revenue and cost assumptions and evaluated the investment returns projected by CA Ventures. The EPS review finds revenue estimates and development budget assumptions to be reasonable, based on comparison to third-party data sources. The analysis assumes land cost based on recent transactions and establishes a rational cost expectation for the land purchase, though it is possible that the landowner could reduce pricing expectations based on current market conditions. Nonetheless, absent a favorable shift in market conditions and/or landowner pricing flexibility, the project does not achieve a reasonable threshold of investment return.
- **EPS developed an independent proforma financial analysis to calculate supportable land value and tested feasibility under various market conditions, finding that a significant market shift would be necessary for a multifamily residential project at 5850 Shellmound to meet land price expectations.** Relying on optimistic rent levels

established by CA Ventures, cost analysis based on Marshall & Swift data, EPS soft cost assumptions, and permit/fee data from the City, EPS conducted a simple feasibility analysis that confirms the 244-unit project is unlikely to be feasible in today's market. Additional testing shows that a significant market evolution will be necessary to achieve feasibility in the absence of reduced land value expectations. To achieve a supportable land value of \$22 million, market rents would need to increase 15 percent over the market-rate assumptions relied on by CA Ventures (about 30 percent over current market levels), without any change in construction costs. In reality, a combination of rent appreciation (relative to costs), reduced risk in the market (expressed as a lower return requirement), and an adjustment in land pricing expectations could combine to create financial conditions that support development, but that mixture of positive effects on feasibility is not foreseeable.

Potential Residential Uses

This review considers the potential for a residential rental development concept with ground-level retail. EPS concurs with the CA Ventures assertion that mixing life science/laboratory/office and residential in a vertical mixed-use project is highly unlikely to be marketable or financeable. EPS has not identified any precedent for laboratory and residential mixed use. Laboratory uses have demanding requirements related to hazardous materials loading and storage, indoor air handling and quality, emergency egress, and other factors that make it unlikely to mix well with residential uses.

This review analysis considers an 8-story, 244-unit residential program sited at on a roughly 1.5-acre site at 5850 Shellmound Way in Emeryville. The project would deliver rental units, with 12 percent of the total unit count provided as below-market-rate (BMR) units for very low- and low-income households. The analysis anticipates that the residential development will be built using a mix of construction types, including a three-story "Type I" reinforced concrete podium at the base, topped with five stories of "Type III" wood/steel framed construction above. The CA Ventures feasibility analysis reflects what likely is the highest and best residential use for the site, a project that requires the City density bonus and is market positioned for maximum revenue, though lower density residential concepts have not been tested by CA Ventures or EPS.

Value Assumptions

EPS reviewed market data provided by CA Ventures in the Emeryville Residential Analysis and compared those data with CoStar Group rent data for recently completed multifamily residential rental projects in Emeryville. EPS also evaluated operating cost factors and market capitalization rates that affect project valuation. Overall, EPS finds that the CA Ventures anticipated rent of \$4 per square foot per month for market rate units is appropriate. This market-rate rent assumption anticipates that a new, well-amenitized project at 5850 Shellmound exceed rents observed in the market today by about 15 percent, which EPS believes is appropriately optimistic.

To assess market-rate rents, EPS searched for market-rate multifamily residential buildings delivered in the City of Emeryville between 2012-2021 (10 years). **Figure 1** presents the four major projects identified. These comparable projects range from 101 to 289 units and are well occupied with vacancy rates between about 2 percent and 6 percent.

Figure 1 Recently Built Multifamily Residential Rental Comparables

Property Name	Property Address	Number of Units	Stories	Year Built	Vacancy
Parc on Powell Apartments	1333 Powell St	173	4	2015	2.4%
3900 Adeline	3900 Adeline St	101	3	2016	4.4%
Emme Apartments	6350 Christie Ave	190	8	2015	2.0%
Avalon Public Market	6301 Shellmound St	289	7	2020	5.8%

EPS evaluated rent assumptions provided by CA Ventures to rents at the four comparable projects. The comparison shown in **Figure 2** shows market rents by unit type (e.g., studio vs. one-bedroom) to gauge the CA Ventures assumptions against third-party market data. The comparison reveals that CA Ventures revenue assumptions exceed current market conditions by about 15 percent overall.

Figure 2 Market-Rate Per-Square-Foot Monthly Rent Assumptions

Unit Type	CA Ventures	CoStar Group	CA Ventures Increase
Studio	\$4.88	\$4.19	16%
1-Bed	\$4.29	\$3.69	16%
2-Bed	\$3.78	\$3.25	16%
3-Bed	\$3.83	\$3.46	11%
Blended	\$3.98	\$3.46	15%

Sources: CA Ventures; CoStar Group & EPS

EPS considered the City's inclusionary housing requirement that 12 percent of the project's units be made available to very low- and low-income households.¹ The code requires that 8 percent of units be designated for very low-income households and 4 percent of units be designated for low-income households. Relying on the City's 2021 Income Limits and HUD allowances for utilities spending, EPS estimated affordable rents ranging from \$1,145 to \$1,623 per unit per month (\$1.26 to \$2.54 per square foot) for very low-income units and \$1,865 to \$2,650 per unit per month (\$2.06 to \$4.13 per square foot). When blended with market rate unit rents, EPS

¹ EPS understands from City staff that an 8-story, 244-unit residential project would utilize the City's density bonus program, which necessitates delivery of below-market-rate housing on site. Accordingly, the financial analysis does not consider a scenario in which the project pays an affordable housing fee in-lieu of delivering affordable units.

calculates the overall weighted average rent for the residential project at \$3.74, almost exactly the overall blended rental rate of \$3.73 presented in the CA Ventures analysis.

In addition to rental revenue, CA Ventures considers additional revenue to the project from optional renter services, retail space leasing, utilities billing (cost recovery), and parking. As is typical, the analysis also assumes project vacancy stabilizes at 5 percent. Also consistent with industry norms, the operational expenses borne by the project are about 30 percent of revenue.

Cost Assumptions

The CA Ventures analysis indicates that construction costs are anticipated to be roughly \$308 to \$328 per square foot, including parking areas, resulting in a total building construction budget of between \$99 million and \$106 million. EPS referred to cost Marshall & Swift Commercial Building Cost data to validate the cost estimate. Marshall & Swift (M&S) produces regularly updated cost metrics for commercial construction, with unique adjustment factors for construction type, location, building size, etc. The comparison of CA Ventures costs to M&S data reveals that the costs relied on by the CA Ventures analysis may be optimistic (i.e., below current market). EPS application of M&S costs to this residential project suggests that it could cost roughly 15 percent more to build than is assumed by CA Ventures. Their analysis relies on the lower cost estimate of \$99 million in direct construction cost (2022\$), while analysis of the building using M&S data reveals that the construction cost could be in the range of \$113 million.

CA Venture supplied supplementary data to EPS concerning soft cost assumptions. These data revealed soft costs (excluding City, School District, and utility-provider permits and fees) equal to about 20 percent of anticipated hard construction costs, which is consistent with typical soft cost budgets for this type of project. In addition, with input from City staff, EPS conducted a detailed review of City, school, and utility-provider permits and fees. Based on the review, EPS concludes that CA Ventures estimate of roughly \$10.4 million is reasonable, with additional fees (e.g., City art fee) potentially increasing the total cost of permits and fees to closer to \$10.6 million.

Financial Return Requirements

Feasible real estate development requires an expected return on investment to motivate investors to make the necessary at-risk investment in a project. The CA Ventures analysis cites the need for return on cost (i.e., yield) of 6 percent or an internal rate of return (IRR) of 18 percent. EPS finds that return thresholds for well-positioned residential multifamily projects in the Bay Area can be lower, with investors potentially accepting 5 percent return on cost (about 1 percentage point above the market capitalization rate) in real, inflation-adjusted returns. Though the CA Ventures analysis reveals return on cost eventually could exceed 5 percent, it does not occur until 2028-29 in their analysis, and thus the analysis reveals that the lower return requirement of 5 percent real return on cost is unlikely to be achieved. The projected return on investment likely is insufficient to attract the necessary financing.

Land Cost Assumption

The CA Ventures analysis includes an assumption concerning the anticipated land cost for the 5850 Shellmound site. The land price assumption reflects a prior (now expired) agreement with the landowner, and also is well defended by analysis of comparable land sales for residential sites and sites with MUR zoning in Emeryville. The analysis reveals transactions occurring between 2016 and 2021 with per-acre land values that range from \$11.3 million to \$28.4 million.

The roughly \$14.8 million per acre (\$22 million for the entire 1.5-acre site) assigned to 5850 Shellmound is at the lower end of the pricing range exhibited in the market in recent years. Though land pricing could adjust over time to reflect evolving market conditions that have reduced land values, EPS finds that land pricing tends to be “sticky,” with owners commonly choosing to wait for market conditions to improve rather than dispose of an asset at a low point in the development cycle.

Estimating Methods and Calculations

EPS concurs with the framework of the CA Venture’s feasibility analysis and did not identify technical issues related to the calculations presented. In order to further verify the results of the CA Ventures analysis, EPS conducted an independent analysis of financial feasibility. EPS developed a residential feasibility analysis using the well-accepted stabilized (“static”) pro forma financial feasibility method, relying on a simplified model to estimate supportable land value (i.e., residual land value). In addition to verifying findings presented by CA Ventures, the EPS model also allows for sensitivity analysis, to determine what magnitude of market shift might make the project feasible in the future.

The EPS model relies on CA Ventures anticipated rents, M&S construction costs, and EPS assumptions concerning soft costs and a required rate of return. Key assumptions include the following:

- Blended rent of \$3.74 per square foot, including market-rate and affordable housing;
- A real investment yield (return on cost) requirement of 5 percent;
- Site work cost of \$10 per net land square foot;
- Direct construction cost of \$350 per gross building square foot, including parking areas and the cost of a parking “stacker” system;
- Soft costs including architecture, engineering, other consulting, taxes and insurance, financing costs, marketing/leasing, and developer general and administrative costs (fee) equal to 19 percent of construction costs; and
- Other costs including cost contingency at 5 percent and permit charges and development fees of \$10.6 million (about \$43,300 per unit).

The EPS model solves for “residual land value” (i.e., the land price a developer is able to incur without compromising the financial viability of the project). The analysis calculates residual land value by deducting the project’s development budget (excluding land) from with the project’s market-supportable investment value. The market-supportable investment value reflects project’s net operating income and yield return requirement.

The EPS model finds the residential project is infeasible in today’s market. The residual land value calculation reveals that project’s supportable investment value is insufficient to cover the anticipated development budget and also support land acquisition. In fact, the base analysis finds that supportable development value is insufficient to even cover the development budget excluding land, with the model producing a residual land value of -\$5.5 million (See **Figure 3**).

Sensitivity Analysis

EPS conducted various feasibility tests to gauge the potential for residential project feasibility in the future:

- When the 5 percent cost contingency is removed from the development budget (a scenario in which construction cost \$350 per square foot are assumed to be achievable), residual land value increases to about \$1 million.
- Removing the cost contingency and assuming market-rate rents assumptions increase by 10 percent without any change in construction costs, residual land value increases to over \$19 million, which is in the range of the the \$22 million land value established by the CA Ventures analysis.
- Decreasing the yield requirement to 4.5 percent, reflecting potential downward pressure on market capitalization and returns requirements, potentially due to increasing confidence in the local market, increases residual land value to over \$10 million.
- Combining the lower yield requirement of 4.5 percent with a 5 percent market rate rent (increase over base assumptions), without any change in construction costs, produces residual land value of \$21 million.
- A 15 percent increase in market rate rents over base assumptions, without any increase in construction costs, increases residual land value to nearly \$22 million.

The sensitivity results show various shifts in market conditions that result in supportable land value that match current land pricing expectations, and therefor suggest a feasible project.

Figure 3 presents the base EPS financial feasibility scenario, which results in a negative land value. **Figure 4** shows the 15 percent rent increase test, which takes market rents to about 30 percent over today's market without an increase in construction costs. In this scenario, residual land value increases to nearly \$22 million.

While a feasible scenario is identified through sensitivity testing, it is unlikely that the necessary market conditions will materialize in the near future. To achieve a supportable land value of \$22 million, market rents would need to increase 15 percent over the market-rate assumptions relied on by CA Ventures (about 30 percent over current market levels), without any change in construction costs. In reality, a combination of rent appreciation (relative to costs), reduced risk in the market (expressed as a lower return requirement), and an adjustment in land pricing expectations could combine to create financial conditions that support development, but that mixture of positive effects on feasibility is not foreseeable.

Figure 3 Base Residual Land Value Feasibility Scenario

DEVELOPMENT PROGRAM ASSUMPTIONS		ASSUMPTION/FACTOR			
					64,904
Development Site (Square Feet)					
Dwelling Units	164	DU / Acre			244
Gross Residential Building Area (Square Feet)	1,136	GBA / DU			277,108
Gross Retail Space (Square Feet)					8,662
Parking Area (Square Feet)					36,048
Total Gross Building Area (Square Feet)					321,818
Net Rentable Residential Area (Square Feet)	79%	Efficiency Factor			217,579
Net Rentable Retail Area (Square Feet)	100%	Efficiency Factor			8,662
Total Parking Spaces					270
Structured Parking Spaces	11%	of total parking			30
Stacker Parking Spaces	89%	of total parking			240
BUILDING VALUE		ASSUMPTION/FACTOR		PER GBA	TOTAL
Gross Potential Residential Rent	\$3.74	per SF/Month		\$30	\$9,753,843
Other Income	5%	of GPR			\$487,692
Gross Potential Retail Rent	\$4.00	NNN per SF/Month		\$1	\$415,776
Gross Potential Parking Income (Residential)	\$125	per Space/Month		\$1	\$360,000
Losses to Vacancy	5.0%	of Gross Income		-\$2	-\$550,866
Gross Residential Revenue				\$33	\$10,466,445
Operating Expenses (Residential Units)	\$12,700	per Unit/ Year		-\$10	-\$3,098,800
Operating Expenses (Other)	3%	Non-Residential Income		\$0	-\$36,009
Net Operating Income (NOI)				\$23	\$7,331,636
Supportable Development Value	5.0%	Project Yield Rate (on NOI)		\$456	\$146,632,726
PROJECT DEVELOPMENT COSTS		ASSUMPTION/FACTOR		PER GBA	TOTAL
Construction Costs					
Basic Site Work	\$10	per SF (Site)		\$2	\$649,040
Parking Podium - Type I	\$142	Cost/SF (GBA)		\$16	\$5,134,317
Retail/Residential - Type I	\$382	Cost/SF (GBA)		\$111	\$35,577,688
Residential - Type III	\$352	Cost/SF (GBA)		\$211	\$67,757,608
Parking Stacker System	\$17,500	per Space		<u>\$13</u>	<u>\$4,200,000</u>
Total Construction Cost				\$352	\$113,318,653
Soft Costs					
Architecture and Engineering	4.0%	of Construction Cost		\$14	\$4,532,746
Other Soft Costs	2.0%	of Construction Cost		\$7	\$2,266,373
Taxes and Insurance	2.0%	of Construction Cost		\$7	\$2,266,373
Financing	4.0%	of Construction Cost		\$14	\$4,532,746
Marketing/Leasing	3.0%	of Construction Cost		\$11	\$3,399,560
Developer Fee	4.0%	of Construction Cost		<u>\$14</u>	<u>\$4,532,746</u>
Total Soft Costs				\$67	\$21,530,544
Other Project Costs					
Development Contingency	5.0%	of Construction & Soft Costs		\$21	\$6,742,460
Permits and Fees	\$43,422	per DU		\$33	\$10,595,050
Total Other Costs				\$54	\$17,337,510
Total Project Cost				\$549	\$152,186,707
Residual Land Value					-\$5,553,980
					per net acre
					-\$3,727,527

Figure 4 15% Rent Increase Residual Land Value Feasibility Scenario

DEVELOPMENT PROGRAM ASSUMPTIONS		ASSUMPTION/FACTOR			
Development Site (Square Feet)					64,904
Dwelling Units	164	DU / Acre			244
Gross Residential Building Area (Square Feet)	1,136	GBA / DU			277,108
Gross Retail Space (Square Feet)					8,662
Parking Area (Square Feet)					36,048
Total Gross Building Area (Square Feet)					321,818
Net Rentable Residential Area (Square Feet)	79%	Efficiency Factor			217,579
Net Rentable Retail Area (Square Feet)	100%	Efficiency Factor			8,662
Total Parking Spaces					270
Structured Parking Spaces	11%	of total parking			30
Stacker Parking Spaces	89%	of total parking			240
BUILDING VALUE		ASSUMPTION/FACTOR		PER GBA	TOTAL
Gross Potential Residential Rent	\$4.26	per SF/Month		\$35	\$11,125,563
Other Income	5%	of GPR			\$556,278
Gross Potential Retail Rent	\$4.00	NNN per SF/Month		\$1	\$415,776
Gross Potential Parking Income (Residential)	\$125	per Space/Month		\$1	\$360,000
Losses to Vacancy	5.0%	of Gross Income		-\$2	-\$622,881
Gross Residential Revenue				\$37	\$11,834,736
Operating Expenses (Residential Units)	\$12,700	per Unit/ Year		-\$10	-\$3,098,800
Operating Expenses (Other)	3%	Non-Residential Income		\$0	-\$37,964
Net Operating Income (NOI)				\$27	\$8,697,973
Supportable Development Value	5.0%	Project Yield Rate (on NOI)		\$541	\$173,959,458
PROJECT DEVELOPMENT COSTS		ASSUMPTION/FACTOR		PER GBA	TOTAL
Construction Costs					
Basic Site Work	\$10	per SF (Site)		\$2	\$649,040
Parking Podium - Type I	\$142	Cost/SF (GBA)		\$16	\$5,134,317
Retail/Residential - Type I	\$382	Cost/SF (GBA)		\$111	\$35,577,688
Residential - Type III	\$352	Cost/SF (GBA)		\$211	\$67,757,608
Parking Stacker System	\$17,500	per Space		\$13	\$4,200,000
Total Construction Cost				\$352	\$113,318,653
Soft Costs					
Architecture and Engineering	4.0%	of Construction Cost		\$14	\$4,532,746
Other Soft Costs	2.0%	of Construction Cost		\$7	\$2,266,373
Taxes and Insurance	2.0%	of Construction Cost		\$7	\$2,266,373
Financing	4.0%	of Construction Cost		\$14	\$4,532,746
Marketing/Leasing	3.0%	of Construction Cost		\$11	\$3,399,560
Developer Fee	4.0%	of Construction Cost		\$14	\$4,532,746
Total Soft Costs				\$67	\$21,530,544
Other Project Costs					
Development Contingency	5.0%	of Construction & Soft Costs		\$21	\$6,742,460
Permits and Fees	\$43,422	per DU		\$33	\$10,595,050
Total Other Costs				\$54	\$17,337,510
Total Project Cost				\$549	\$152,186,707
Residual Land Value					\$21,772,751
				per net acre	\$14,612,675