Memorandum

To: Ann Chanecka, Deputy Director, Housing and Community Development, City of Tucson

From: Sherry Okun-Rudnak, Principal
Bilal Ali, Senior Associate

Date: January 14, 2022

Re: Development Prototype Financial Feasibility Analysis – Menlo Park and Dunbar Spring

INTRODUCTION

BAE Urban Economics is serving as the City of Tucson's consultant partner for affordable housing development on two city-owned sites, located in the Menlo Park and Dunbar Spring neighborhoods, respectively. As part of its engagement with the city, BAE tested the financial feasibility of several prototype developments that could fit on the lots under both sites' existing zoning while maintaining compatibility with the broader neighborhood. Community groups from both neighborhoods have stated goals to have affordable, for-sale units developed on the sites. Findings from the financial feasibility analysis demonstrate that 100 percent affordable projects of between ten and 30 units, where the affordability is targeted for households earning between 80 and 120 percent of the Area Median Income (AMI), could attract a developer under current market conditions today on both sites.

BAE worked with Tucson-based architecture firm Lizard Rock Designs to develop massing diagrams of townhome prototypes of varying sizes that could fit on the sites. For the slightly larger Menlo Park site, the final prototype includes 20 one-story, three-bedroom units. The Dunbar Spring prototype has ten one-story units, including three two-bedroom units and seven three-bedroom units. As noted, the financial feasibility analysis assumes that the affordable units will be targeted as 'missing middle' housing, so called because sale prices and rents are aimed at households earning between 80 and 120 percent of AMI, for whom there are no federal subsidies to build affordable housing, and for whom market rate development is too expensive. Indeed, in Tucson, a four-person household at 120 percent of AMI earning $106,000 annually can afford a sale price of just over $340,000 without spending more than 30 percent of gross household income on housing costs[1]. However, the median sale price of a new three-bedroom unit can range from $360,000 to over $400,000.
Buyers of for sale affordable units must still be able to qualify for a home mortgage. This means that while there may be some subsidies in terms of down payment assistance or other

[1] Households are considered 'cost-burdened' by HUD is housing costs exceed 30 percent of gross monthly income.

mechanism to reduce monthly housing costs to 30 percent of household income, buyers will be paying those costs to a bank in the form of mortgage payments. Typically, households earning less than 80 percent AMI have a difficult time qualifying for a mortgage, leaving many targeted for-sale affordable housing units vacant. BAE recommends that developers target affordable for-sale units to households earning between 80 percent and 120 percent of AMI to avoid inefficient outcomes and help address missing middle housing needs.

BAE uses static pro forma analyses to determine a project's feasibility. Pro forma analyses compare the construction costs, financing costs, and minimum required developer returns of each project type to the potential market value of the project based on current Tucson costs, market rate for sale prices, and the maximum affordable sale price based on the existing AMI in the city. This is the same method that developers use in determining whether to pursue a project.

FINANCIAL FEASIBILITY ANALYSIS

Methodology

BAE, Lizard Rock, and city staff worked together to conceive the prototypes on both sites, based in large part on community input including from previous attempts to plan and develop the sites. The prototypes also incorporate feedback from affordable housing developers in the Tucson area, who importantly noted that affordable housing developments tend to have smaller unit sizes than market rate developments, which helps to support a project's financial feasibility. Affordable housing developers tend to use HUD minimum size requirements as a basis for determining unit sizes. Lizard Rock prepared conceptual massing diagrams to provide a sense of neighborhood scale for both prototypes and did not incorporate any of the design guidelines that the communities have specified and that will be included as criteria for approving development on the site.

The prototypes do not utilize the maximum allowable density on each site, which aligns with community input regarding site development preferences. BAE reviewed construction and financing costs in detailed discussions with local housing developers and reviewed recent pro formas of affordable housing projects in the Tucson area to determine development cost assumptions. Cost assumptions include demolition, sitework, soft and hard construction costs, financing costs, and minimum required developer returns. Minimum required developer returns represent the minimum profit required to attract a developer to the for-sale opportunity.[2]

As a high-level analysis, the conceptual massing diagram for Menlo Park does not account for the current platting on the parcel, and any proposed development would likely require the site

[2] To attract developers to build for-sale affordable units that are not federally subsidized, projects will need to provide investment returns comparable to the greater for-sale housing market.

to be re-platted. In addition, units in both prototypes would have lot sizes of smaller than 5,000 feet, which would trigger the Flexible Lot Development (FLD) process. The FLD process provides greater flexibility regarding the design of the development by providing incentives to meet community goals, such as providing open space. The FLD process also enables both sites to increase the maximum allowable density to 22 units per acre if developers provide a certain level of affordability, preserve a historic site, or provide other community benefits.

BAE also evaluated the feasibility of creating the same project as an affordable rental development, using federal Low Income Housing Tax Credit (LIHTC) funds as a means of comparing feasibility for affordable housing projects. Only projects with a minimum of 20 percent of units at 60 percent of AMI are eligible for LIHTC equity, meaning that a rental project would allow for deeper levels of affordability. As the analysis will show, rental projects at the proposed densities are inefficient and would require additional sources of subsidy funding.

Feasibility – Residual Land Valuation

In 2020, local appraisers valued the Menlo Park site at $202,000, while the smaller Dunbar Spring site is valued at $96,000.[3] However, the cost of site acquisition is not included among the project costs in this analysis. Instead, the pro forma solves for a 'Residual Land Value,' (RLV) which is the most a developer could pay for the land without incurring a loss. Projects that return a positive RLV are feasible and could attract a developer, while projects that return a negative RLV are infeasible and would require subsidies to attract a developer.

To attract a developer, projects with a zero RLV would require the City to write down or contribute the land for consideration below market value, either through a fee simple transaction (sale of property) or long-term ground lease. This is often a requirement for 100 percent affordable projects. Maintaining ownership of the land through a ground-lease transaction would provide the City with certain benefits, including allowing the City to control affordability terms. This analysis assumes that all City land transactions occur via ground lease.

Cost and Revenue Assumptions

The following section outlines the development cost and revenue assumptions that inform the feasibility analysis. These cost and revenue assumptions are based on a review of development applications for recently completed projects in the area, a market study of for-sale housing in Tucson, and HUD's AMI by household size and corresponding maximum affordable unit prices. Other than impact fees, cost and financing assumptions are consistent for all prototypes.

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[3] Updated appraisals may be necessary in light of changing real estate market conditions since 2020.

Development Cost Assumptions

Site Work – Sitework includes grading, excavation, and preparing the site for construction. The analysis uses a sitework cost of $5.00 per site square foot for all three development prototypes. This is relatively a conservative assumption. The infrastructure improvements for the Menlo Park site were completed in 2009 and the site previously also had residential development that was demolished in 2006, suggesting the Menlo Park site will require limited work to prepare it for construction.

Residential Hard Costs – Based on discussions with local affordable housing developers and reviewing recent development applications for similar projects, this memo assumes a residential hard costs of $170 per square foot. This cost includes materials, prevailing wage labor, fixtures, and appliance costs, but does not include other aspects of the construction contract like engineering and architecture, which this analysis considers to be soft costs.

Soft Costs – Softs costs, which are typically estimated as a percentage of hard construction costs, include the costs associated with engineering, legal, permits and fees, and accounting services. Based on discussions with local developers and data from recent development applications for affordable housing projects, soft costs are equal to ten percent of hard costs in this analysis.

Parking Costs – In order to keep development costs low, the prototypes assume that each unit will have either a covered carport or an uncovered driveway. Notably, neither the Menlo Park nor Dunbar Spring prototypes are conceived such that they meet the city's minimum parking requirements, meaning the prototypes would require a waiver from the city to build.

Developer Profit – In order to attract developers and investors, real estate projects must generate sufficient levels of profit. Developers typically seek profit equal to ten to 15 percent of hard and soft costs and are likely to seek the higher end of this range given the relatively small size of the project. Smaller projects will generate less revenue overall in terms of dollar value, and profits may not motivate developers given the inherent risks and time commitment involved in developing housing projects.

Financing Costs – Assumptions regarding the financing of construction loans are the same for both prototypes. Banks provide construction loans equal to 65 percent of construction costs and charge loan fees of one percent. In the current market, annual interest rates are 5.5 percent with a drawdown factor of 65 percent. This analysis assumes the construction period to complete either project is 12 months.

Operating Cost and Revenue Assumptions

Residential Sale Prices – Project revenues account for the maximum affordable sale price for three- and four-person households by AMI, as every unit in the proposed prototypes are two- or three-bedroom units[4]. Tucson Housing and Community Development Department 2021 Income Limits, along with a maximum monthly housing expenditure of 31 percent of gross monthly income are the basis for the maximum affordable sale price by AMI. The affordable residential sale prices by unit size are summarized in Table 1.

Table 1: Affordable Sale Prices by Household Size and AMI

Affordable	Household Size	
Sale Price	3-person	4-person
80% AMI	$205,072	$227,715
100% AMI	$256,300	$284,563
120% AMI	$307,560	$341,476
Market Rate	$350,000	$400,000

Sources: City of Tucson Housing and Community Development, 2021; BAE, 2021.

Residential Rental Rates – This memo also models the feasibility of rental versions of the prototypes with LIHTC equity to compare the impact on feasibility of federal subsidies versus higher revenues from targeting higher income households. Affordable rents by household size are based directly on 2021 Income limits for rental housing from the Tucson Housing and Community Development Department. Table 2 summarizes affordable rents by household size. Pro Formas for the rental versions of the development prototypes are included in the Appendix.

Table 2: Affordable Monthly Rents by Household Size and AMI

Affordable	Household Size	
Rent	3-person	4-person
30% AMI	$455	$543
60% AMI	$910	$1,085
80% AMI	$1,142	$1,253
Market Rate	$1,450	$1,600

Sources: City of Tucson Housing and Community Development, 2021; BAE, 2021.

Financial Feasibility Analysis

This section summarizes the financial feasibility of the development prototypes on both the Menlo Park and Dunbar Spring sites. Complete pro forma feasibility models are provided in Appendix A.

[4] The analysis assumes the number of people in a household is equal to the number of bedrooms in each unit plus one.

Menlo Park-Westmoreland Site

The prototype tested for financial feasibility on the 1.4-acre Menlo Park site includes 20 one-story, 1,100-square foot, three-bedroom units. Each unit includes a covered driveway (carport) for either one or two cars, for a total of 32 parking spaces. Under current zoning, developments with three-bedroom units must provide 2.25 parking spaces per unit, meaning this prototype would require 45 spaces. Therefore, this prototype would require a waiver from the city as part of the FLD to reduce the minimum required number of parking spaces. Figure 1 shows a conceptual massing of the prototype to provide a sense of scale compared to the surrounding neighborhood and is not intended to show specific architectural designs or features like facades.

Figure 1: Menlo Park-Westmoreland Development Conceptual Prototype Massing

site plan
1:100

view from street

birdseye

view from park

Density / Zoning:
R - 2
(20) 3BR townhomes (1.4 acres x 22 DU/acre = 30 allowed)
45 parking spaces (20 x 2.25 spaces = 45 required for 3BR)
14 DU/acre (22 allowed via LDO)

Source: City of Tucson, 2021; Lizard Rock Designs, 2021; BAE, 2021.

Based on the development cost assumptions described in this memo, the total development cost of this prototype is $5.1 million, or $256,000 per unit. Table 3 shows the financial feasibility of this prototype under three different affordability mixes. Mix 1 would provide the deepest level of affordability, with all units being sold told to households earning 80 percent AMI. Mix 1 generates the lowest amount of sale revenues, returning a negative RLV of $566,000, which is the amount of additional subsidy required to attract a developer.

Under Mix 2, affordability of the units is split evenly among households earning 80 and 100 percent of AMI. This mix provides a positive but small RLV just under $3,000. While this does show potential for the City to earn some ground lease revenue, a positive RLV of this magnitude is no different than zero and indicates a marginal project. Mix 3 increases the share of units at 80 percent of AMI to three-quarters of the total units, with the remaining 25 percent of the units restricted to households earning up to 120 percent of the AMI. At just over $3,000, the RLV for Mix 3 is comparable to the Mix 2. Therefore, a 100 percent affordable project of the Menlo Park prototype where at least half of the units are restricted for households earning more than 80 percent of AMI is marginally feasible and may attract a developer today under current market conditions without additional subsidies.

Table 3: Westmoreland-Menlo Park Prototype Feasibility Analysis

	Mix 1	Mix 2	Mix 3
Westmoreland-Menlo Park	100% @ 80% AMI	50% @ 80 AMI; 50% @ 100 AMI	75% @ 80 AMI; 25% @ 100 AMI
Number of Units	20	20	20
Gross Sales Revenue	$4,554,301	$5,122,785	$5,123,107
Total Development Costs	($5,119,982)	($5,119,982)	($5,119,982)
Residual Land Value	($565,681)	$2,804	$3,125
Ground Lease Revenue (a)	$0	$168	$187

Notes:
(a) Annual ground lease revenue is assumed at six percent of residual land value.

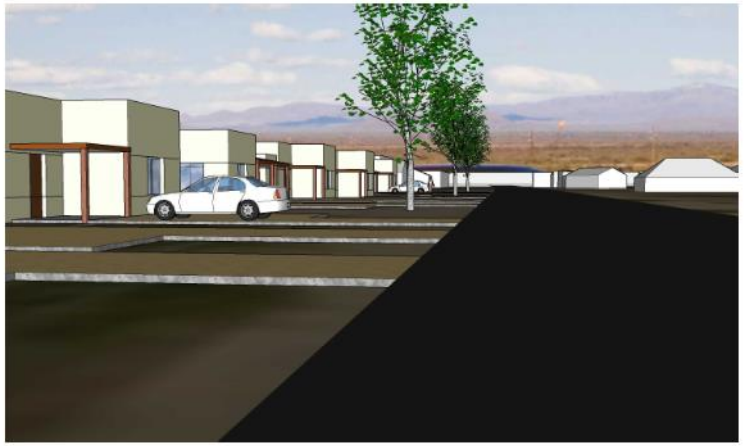
Source: BAE, 2021.

Dunbar Spring Site

The prototype for the 0.63-acre Dunbar Spring site includes ten units; seven three-bedroom units and three two-bedroom units. Each prototype includes an uncovered driveway for one car, for a total of ten parking on-site parking spaces. Under current zoning, a three-bedroom unit must include 2.25 parking spaces, while a two-bedroom unit requires two parking spaces per unit. As this prototype only includes ten out of 22 total required parking spaces, it would require a waiver from the city to construct. Figure 2 shows a conceptual massing of the prototype to provide a sense of scale compared to the surrounding neighborhood and is not intended to show specific architectural designs or features like facades.

Figure 2: Dunbar Spring Development Conceptual Prototype Massing

site plan
1:100



view from 11th street looking north

birdseye

view from 11th street looking south

Density / Zoning:
O - 3
10 2BR houses (13 allowed)
10 parking spaces (1 to 1 ratio)
16 DU/acre (22 allowed)

Source: City of Tucson, 2021; Lizard Rock Designs, 2021; BAE, 2021.

The total development cost for this prototype is $2.4 million, or $243,200 per unit. Applying the same revenue assumptions used in the Menlo Park Pro Forma, the version of this prototype where 100 percent of the units are restricted to households earning 80 percent of AMI generates a negative RLV of $223,000. Similar to the Menlo Park prototype, restricting 50 to 75 percent of the units for households earning 80 percent of the AMI, and restricting the rest to households earning between 100 and 120 percent AMI can generate a marginally positive RLV, suggesting developers may be attracted to an opportunity to develop the site aimed at missing middle housing. As shown in Table 4, Mix 2 and Mix 3 generate a similar magnitude of positive RLV ($53,000), representing two percent of project costs, could attract a developer and provide approximately $3,100 in ground lease revenue to the City.

Table 4: Dunbar Spring Prototype Feasibility Analysis

	Mix 1	Mix 2	Mix 3
For Sale Affordability	100% @ 80% AMI	50% @ 80 AMI; 50% @ 100 AMI	75% @ 80 AMI; 25% @ 100 AMI
Number of Units	10	10	10
Gross Sales Revenue	$2,209,221	$2,485,033	$2,485,169
Total Development Costs	($2,432,002)	($2,432,002)	($2,432,002)
Residual Land Value	($222,780)	$53,031	$53,167
Ground Lease Revenue (a)	$0	$3,182	$3,190

Note:
(a) Annual ground lease revenue is assumed at six percent of residual land value.

Source: BAE, 2021.

Alternative Financing and Ownership Options

Both the Menlo Park and Dunbar Spring communities have specifically indicated a preference for affordable, for sale units, which would only support affordability to households earning 80 percent AMI or higher. Targeting deeper affordability would require the developer to build the project as federally subsidized rental housing. Rental housing targeting households earning 60 percent of AMI or less is potentially eligible for Low Income Housing Tax Credits (LIHTC), the main federal subsidy program for affordable housing.

BAE tested whether the feasibility of a rental version of either prototype would improve under LIHTC financing, finding that a rental product would in fact be less feasible. This results from lower overall gross revenues, as the rents for households earning 60 percent of AMI is less than the corresponding gross sales revenue of units affordable to households earning between 80 and 120 percent of AMI, and because the projected LIHTC subsidy would not make up for the loss in gross revenue. Indeed, even if the project could command a higher subsidy (or additional subsidies), neither prototype tested in this analysis include enough units to be competitive for LIHTC, as most LIHTC projects include at least 30 to 50 units.

APPENDIX

Table 5: Westmoreland-Menlo Park Pro Forma Analysis - For Sale

Development Program Assumptions		
Property	**Westmoreland-Menlo Park**	
Site Size - acres / square feet	1.40 /	60,984
Total Dwelling Units		20
Built Project Density (du per acre)		14
Building Type	Single Story w / Carport	
Total Units (square feet / # of units)	**22,000 /**	**20**
1BR Units (square feet / # of units)	0 /	0
2BR Units (square feet / # of units)	0 /	0
3BR Units (square feet / # of units)	1,100 /	20
Total Parking (square feet / # of spaces) (a)	**5,100 /**	**32**
Carport	159 /	32
Tuck-under Garage	0 /	0
Affordability Mix (b)		
Mix 1		
60% AMI	0%	
80% AMI	100%	
100% AMI	0%	
120% AMI	0%	
MR	0%	
Mix 2		
60% AMI	0%	
80% AMI	50%	
100% AMI	50%	
120% AMI	0%	
MR	0%	
Mix 3		
60% AMI	0%	
80% AMI	75%	
100% AMI	0%	
120% AMI	25%	
MR	0%	

Cost Assumptions	
Construction	
Site Prep Costs (per site. sq.ft)	$5
Hard Cost per residential sf	$170
Parking cost per space, Surface	$5,000
Soft Costs (% of hard costs)	10%
Impact Fees (per unit)	$5,655
Parks (per unit)	$1,987
Police (per unit)	$464
Fire (per unit)	$314
Streets (per unit)	$2,887
Admin Fee (per building permit)	$50
Developer Profit (% of hard and soft) (c)	10%
Financing	
Construction-Period	
Loan-to-Cost	65%
Loan Fees	1%
Draw down Factor	65%
Interest rate	5.5%
Loan Term (months)	12
Sales Revenue	
Affordable Sales Price Per Unit 4-person Household	
60% AMI	$170,738
80% AMI	$227,715
100% AMI	$284,563
120% AMI	$341,476
Market Rate	$360,000
Marketing Fees % of Sales Prices	2.5%

Development Cost Analysis	
Construction	**Total**
Site Preparation	$304,920
Hard Cost	$3,740,000
Parking Cost	$0
Soft Costs	$374,000
Impact Fees	$113,090
Subtotal	**$4,532,010**
Financing	
Const. Loan Fees	$29,458
Const. Loan Interest	$105,313
Developer Profit	$453,201
TOTAL DEVELOPMENT COST	**$5,119,982**

Feasibility Analysis			
Project Income	**Mix 1**	**Mix 2**	**Mix 3**
Gross Sales Revenue	$4,554,301	$5,122,785	$5,123,107
Less Marketing Fees	$0	$0	$0
Project Value	**$4,554,301**	**$5,122,785**	**$5,123,107**
Feasibility			
Total Development Costs	**($5,119,982)**	**($5,119,982)**	**($5,119,982)**
Per sq.ft.	($233)	($233)	($233)
Per Unit	($255,999)	($255,999)	($255,999)
Residual Land Value	**($565,681)**	**$2,804**	**$3,125**
Per acre	($404,058)	$2,003	$2,232
Per unit	($28,284)	$140	$156
Ground Lease Revenue (d)	*$0*	*$168*	*$187*

Notes:
(a) The parking requirements for an R-2 zone is 2.25 spaces per dwelling unit. Therefore, this prototype would require special approval.
(b) Mixes show the percentage of units available at each affordability level.
(c) Assumes developers will require a 10 percent return. Because these units do not use federal housing funding sources, developers can require market returns.
(d) Annual ground lease revenue is assumed at six percent of residual land value.

Sources: Developer Interviews; ListSource; City of Tucson; Lizard Rock; HUD; BAE, 2021.

Table 6: Dunbar Spring Pro Forma Analysis – For Sale

Development Program Assumptions		
Property	**Dunbar Springs**	
Site Size - acres / square feet	0.63 /	27,443
Total Dwelling Units		10
Built Project Density (du per acre)		16
Building Type	Single Story w/ Carport	
Total Units (square feet / # of units)	**10,550 /**	**10**
1BR Units (square feet / # of units)	0 /	0
2BR Units (square feet / # of units)	950 /	3
3BR Units (square feet / # of units)	1,100 /	7
Total Parking (square feet / # of spaces) (a)	**1,590 /**	**10**
Carport	159 /	10
Tuck-under Garage	0 /	0
Affordability Mix (b)		
Mix 1		
60% AMI	0%	
80% AMI	100%	
100% AMI	0%	
120% AMI	0%	
MR	0%	
Mix 2		
60% AMI	0%	
80% AMI	50%	
100% AMI	50%	
120% AMI	0%	
MR	0%	
Mix 3		
60% AMI	0%	
80% AMI	75%	
100% AMI	0%	
120% AMI	25%	
MR	0%	

Cost Assumptions	
Construction	
Site Prep Costs (per site. sq.ft)	$5
Hard Cost per residential sf	$170
Parking cost per space, Surface	$5,000
Soft Costs (% of hard costs)	10%
Impact Fees (per unit)	$4,265
Parks (per unit)	$1,488
Police (per unit)	$348
Fire (per unit)	$235
Streets (per unit)	$2,189
Admin Fee (per building permit)	$50
Developer Profit (% of hard and soft) (c	10%
Financing	
Construction-Period	
Loan-to-Cost	65%
Loan Fees	1%
Draw down Factor	65%
Interest rate	5.5%
Loan Term (months)	12
Sales Revenue	
Affordable Sales Price Per Unit 3-person Household	
60% AMI	$153,780
80% AMI	$205,072
100% AMI	$256,300
120% AMI	$307,560
Market Rate	$350,000
Affordable Sales Price Per Unit 4-person Household	
60% AMI	$170,738
80% AMI	$227,715
100% AMI	$284,563
120% AMI	$341,476
Market Rate	$400,000
Marketing Fees % of Sales Prices	2.5%

Development Cost Analysis	
Construction	**Total**
Site Preparation	$137,214
Hard Cost	$1,793,500
Parking Cost	$0
Soft Costs	$179,350
Impact Fees	$42,650
Subtotal	**$2,152,714**
Financing	
Const. Loan Fees	$13,993
Const. Loan Interest	$50,024
Developer Profit	$215,271
TOTAL DEVELOPMENT COST	**$2,432,002**

Feasibility Analysis			
Project Income	**Mix 1**	**Mix 2**	**Mix 3**
Gross Sales Revenue	$2,209,221	$2,485,033	$2,485,169
Less Marketing Fees	$0	$0	$0
Project Value	**$2,209,221**	**$2,485,033**	**$2,485,169**
Feasibility			
Total Development Costs	**($2,432,002)**	**($2,432,002)**	**($2,432,002)**
Per sq.ft.	($231)	($231)	($231)
Per Unit	($243,200)	($243,200)	($243,200)
Residual Land Value	**($222,780)**	**$53,031**	**$53,167**
Per acre	($353,620)	$84,176	$84,393
Per unit	($22,278)	$5,303	$5,317
Ground Lease Revenue (d)	*$0*	*$3,182*	*$3,190*
Land Value	**$96,000**		

Notes:
(a) Based on differing parking requirements for units of different sizes, this development prototype would require 22 parking spaces under the existing code. Therefore, this prototype would require a special waiver of parking requirements for approval.
(b) Mixes show the percentage of units available at each affordability level.
(c) Assumes developers will require a 10 percent return. Because these units do not use federal housing funding sources, developers can require market returns.
(d) Annual ground lease revenue is assumed at six percent of residual land value.

Sources: Developer Interviews; ListSource; City of Tucson; Lizard Rock; HUD; BAE, 2021.

Table 7: Westmoreland-Menlo Park Pro Forma Analysis – For Rent

Development Program Assumptions		
Property	**Westmoreland - Menlo Park**	
Site Size - acres / square feet	1.40 /	60,984
Total Dwelling Units		20
Built Project Density (du per acre)		14
Building Type	Single Story w/ Carport	
Total Units (square feet / # of units)	**22,000 /**	**20**
1BR Units (square feet / # of units)	0 /	0
2BR Units (square feet / # of units)	0 /	0
3BR Units (square feet / # of units)	1,100 /	20
Total Parking (square feet / # of spaces) (a)	**5,100 /**	**32**
Carport	159 /	32
Tuck-under Garage	0 /	0
Affordability Mix (b)		
100% Affordable		
30% AMI	0%	
60% AMI	100%	
80% AMI	0%	
MR	0%	
80/20 Mixed-Income		
30% AMI	0%	
60% AMI	20%	
80% AMI	0%	
MR	80%	

Cost Assumptions	
Construction	
Site Prep Costs (per site. sq.ft)	$5
Hard Cost per residential sf	$170
Parking cost per space, Surface	$5,000
Soft Costs (% of hard costs)	10%
Impact Fees (per unit)	$5,655
Parks (per unit)	$1,987
Police (per unit)	$464
Fire (per unit)	$314
Streets (per unit)	$2,887
Admin Fee (per building permit)	$50
Developer Profit (% of hard and soft)	10%
Rental Revenue	
Affordable Sales Price Per Unit 4-person Household	
30% AMI	$543
60% AMI	$1,085
80% AMI	$1,253
Market Rate	$1,600
Annual Operating Cost (% of rental revenu	33%
Average Vacancy Rate	2.0%
Capitalization Rate	5.5%
Financing	
Construction-Period	
MR Loan-to-Cost	65%
Loan Fees	1%
Drawdown Factor	65%
Interest rate	5.5%
Loan Term (months)	18
Permanent Loan	
Debt-Service Coverage Ratio	1.15
Loan Fees	1%
Interest rate	5.5%
Loan Term (years)	30
LIHTC Equity	
QCT/DDA Boost Eligible	Yes
QCT/DDA Adjustment	130%
Tax Credit Term (years)	10
Tax Credit Type	4%
Tax Credit Rate	3.17%
Tax Credit Price	$0.92

Development Cost Analysis			
Construction			**Total**
Site Preparation			$304,920
Hard Cost			$3,740,000
Parking Cost			$0
Soft Costs			$374,000
Impact Fees			$113,090
Subtotal			**$4,532,010**
	100% Affordable	**Mix Rate**	
Financing			
Const. Loan Fees	$33,563	$6,465	
Const. Loan Interest	$179,980	$34,669	
Aff. Developer Profit (c)	$453,201	$90,640	
MR Developmer Profit	$0	$362,561	
Eligible Basis	*$5,832,697*	*$1,081,700*	
TOTAL DEVELOPMENT COST	**$5,198,754**	**$5,026,345**	

Feasibility Analysis				
		80/20 Project		
Project Income	**100% Affordable**	**Affordable**	**Market Rate**	**Total**
Gross Scheduled Rents	$260,400	$52,080	$307,200	$359,280
Less Vacancy	($5,208)	($1,042)	($6,144)	($7,186)
Less Operating Expenses	($85,932)	($17,186)	($101,376)	($118,562)
Net Operating Income	**$169,260**	**$33,852**	**$199,680**	**$233,532**
Feasibility				
Total Development Costs	**($5,198,754)**	**($1,005,269)**	**($4,021,076)**	**($5,026,345)**
Per sq.ft.	($236)	($228)	($228)	($228)
Per Unit	($259,938)	($251,317)	($251,317)	($251,317)
Affordable Funding Sources				
LIHTC Equity	$1,701,048	$315,467	$0	$315,467
Supportable Private Debt	$1,655,227	$331,045	$0	$331,045
Total Funding Sources	$3,356,274	$646,512	$0	$646,512
Market-Rate Project Value	**n.a.**	**n.a.**	**$3,630,545**	**$3,630,545**
Residual Land Value	**($1,842,480)**	**($358,757)**	**($390,531)**	**($749,288)**
Gap per unit	($92,124)			($37,464)

Notes:
(a) The parking requirements for an R-2 zone is 2.25 spaces per dwelling unit. Therefore, this prototype would require special approval.
(b) Mixes show the percentage of units available at each affordability level.
(c) Assumes developers will require a 10 percent return on market rate units. Developer profits on affordable units capped by HUD.
(d) Annual ground lease revenue is assumed at six percent of residual land value.

Sources: CoStar; Developer Interviews; City of Tucson; Lizard Rock; HUD; BAE, 2021.

Table 8: Dunbar Spring Pro Forma Analysis – For Rent

Development Program Assumptions

Property	Dunbar Springs	
Site Size - acres / square feet	0.63 /	27,443
Total Dwelling Units		10
Built Project Density (du per acre)		16
Building Type	Single Story w/ Carport	
Total Units (square feet / # of units)	**10,550 /**	**10**
1BR Units (square feet / # of units)	0 /	0
2BR Units (square feet / # of units)	950 /	3
3BR Units (square feet / # of units)	1,100 /	7
Total Parking (square feet / # of spaces) (a)	**0 /**	**10**
Carport	0 /	10
Tuck-under Garage	0 /	0
Affordability Mix (b)		
100% Affordable		
30% AMI	0%	
60% AMI	100%	
80% AMI	0%	
MR	0%	
80/20 Mixed-Income		
30% AMI	0%	
60% AMI	20%	
80% AMI	0%	
MR	80%	

Cost Assumptions

Construction		
Site Prep Costs (per site. sq.ft)		$5
Hard Cost per residential sf		$170
Parking cost per space, Surface		$5,000
Soft Costs (% of hard costs)		10%
Impact Fees (per unit)		$4,265
Parks (per unit)		$1,488
Police (per unit)		$348
Fire (per unit)		$235
Streets (per unit)		$2,189
Admin Fee (per building permit)		$50
Developer Profit (% of hard and soft)		10%
Rental Revenue		
Affordable Rents Per Unit	3-Person	4-Person
30% AMI	$455	$543
60% AMI	$910	$1,085
80% AMI	$1,142	$1,253
Market Rate	$1,450	$1,600
Annual Operating Cost (% of rental revenue)		33%
Average Vacancy Rate		2.0%
Capitalization Rate		5.5%
Financing		
Construction-Period		
MR Loan-to-Cost		65%
Loan Fees		1%
Draw down Factor		65%
Interest rate		5.5%
Loan Term (months)		18
Permanent Loan		
Debt-Service Coverage Ratio		1.15
Loan Fees		1%
Interest rate		5.5%
Loan Term (years)		30
LIHTC Equity		
QCT/DDA Boost Eligible		Yes
QCT/DDA Adjustment		130%
Tax Credit Term (years)		10
Tax Credit Type		4%
Tax Credit Rate		3.17%
Tax Credit Price		$0.92

Development Cost Analysis

Construction	**Total**
Site Preparation	$137,214
Hard Cost	$1,793,500
Parking Cost	$0
Soft Costs	$179,350
Impact Fees	$42,650
Subtotal	**$2,152,714**

	100% Affordable	Mix Rate
Financing		
Const. Loan Fees	$15,956	$3,074
Const. Loan Interest	$85,562	$16,482
Aff. Developer Profit (c)	$215,271	$43,054
MR Developmer Profit	$0	$172,217
Eligible Basis	*$2,770,543*	*$513,810*
TOTAL DEVELOPMENT COST	**$2,469,503**	**$2,387,541**

Feasibility Analysis

		80/20 Project		
Project Income	**100% Affordable**	**Affordable**	**Market Rate**	**Total**
Gross Scheduled Rents	$123,900	$24,780	$149,280	$174,060
Less Vacancy	($2,478)	($496)	($2,986)	($3,481)
Less Operating Expenses	($40,887)	($8,177)	($49,262)	($57,440)
Net Operating Income	**$80,535**	**$16,107**	**$97,032**	**$113,139**
Feasibility				
Total Development Costs	**($2,469,503)**	**($477,508)**	**($1,910,033)**	**($2,387,541)**
Per sq.ft.	($234)	($226)	($226)	($226)
Per Unit	($246,950)	($238,754)	($238,754)	($238,754)
Affordable Funding Sources				
LIHTC Equity	$808,001	$149,847	$0	$149,847
Supportable Private Debt	$787,567	$157,513	$0	$157,513
Total Funding Sources	$1,595,569	$307,361	$0	$307,361
Market-Rate Project Value	**n.a.**	**n.a.**	**$1,764,218**	**$1,764,218**
Residual Land Value	**($873,935)**	**($170,147)**	**($145,815)**	**($315,962)**
Gap per unit	($87,393)			($31,596)
Land Value	**$96,000**			

Potential Additional Subsidies Section 8 PBV
Section 108 Loans
Etc.

Notes:
(a) Based on differing parking requirements for units of different sizes, this development prototype would require 22 parking spaces under the existing code. Therefore, this prototype would require a special waiver of parking requirements for approval.
(b) Mixes show the percentage of units available at each affordability level.
(c) Assumes developers will require a 10 percent return on market rate units. Developer profits on affordable units capped by HUD.
(d) Annual ground lease revenue is assumed at six percent of residual land value.

Sources: CoStar; Developer Interviews; City of Tucson; Lizard Rock; HUD; BAE, 2021.