



HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: July 13, 2020
To: Perry Hariri, Miramar 400 Logue, LLC, a Delaware LLC
From: Gary Black
Jocelyn Lee
Subject: Parking Analysis for the Proposed Residential Development at 400 Logue Avenue in Mountain View, California

Hexagon Transportation Consultants, Inc. has completed a parking analysis for your proposed residential development at 400 Logue Avenue in Mountain View, California. The project involves demolishing an office building and constructing 408 residential units.

The purpose of this parking study is to evaluate whether an adequate parking supply is proposed for the residential development on the project site. The analysis is based on the East Whisman Precise Plan parking requirements, published parking rates, and surveys conducted at a number of residential developments in the area.

East Whisman Precise Plan Parking Requirements

The project would be located within the East Whisman Precise Plan (EWPP) area, which is bounded by N. Whisman Road, W. Middlefield Road, State Route 237, and Central Expressway. The plan was adopted by the City of Mountain View in November 2019. The EWPP includes parking requirements for residential projects within the Plan Area that are lower than and supersede the requirements in the City of Mountain View Zoning Code (Section 36.32.50) for other parts of the city. The requirements applicable to the proposed project are listed below.

- 1.0 parking space for every studio and one-bedroom unit
- 2.0 parking spaces for every unit with two or more bedrooms

The project is proposing 137 studio units, 204 one-bedroom units, and 66 two-bedroom units. Based on this breakdown, the project is required to provide 473 parking spaces.

Proposed Project Parking

The project is proposing to provide a total of 420 parking spaces (407 spaces for the residents and 13 spaces for guests), which is 53 parking spaces fewer than the EWPP's requirement. A parking analysis was conducted using parking ratios from other sources to determine an adequate number of parking spaces required for the development.

Parking Estimates Based on Published Rates

The Institute of Transportation Engineers (ITE) publication *Parking Generation, 5th Edition* (2019) provides the results of parking surveys conducted throughout the country for numerous popular land uses. The ITE parking rates are based on the number of dwelling units and bedrooms. Mid-Rise Multifamily Housing includes apartments that have between three to 10 levels of residences.

The project would have eight stories. ITE provides rates for multifamily housing under different combinations of settings and proximity to rail transit. Based on the project location, the appropriate rates would be under the General Urban/Suburban setting within ½ mile of rail transit, as the project is located within 0.2-mile walking distance of the Middlefield Station (1).

Based on the ITE rates, the project would require 0.8 space per bedroom, which equates to 379 parking spaces. Thus, the proposed parking supply (420 spaces) would exceed the parking demand estimated using ITE rates.

Parking Estimates Based on Local Survey Data

Parking survey data from Hexagon's surveys of similar sites in the Bay Area and from the GreenTRIP database are discussed below.

Hexagon Survey Data

Hexagon has completed a series of parking surveys at 26 existing apartment complexes in the Cities of San Jose, Mountain View, Sunnyvale, Cupertino, Santa Clara, San Mateo, Foster City, Redwood City, and Los Altos between the years 2011 and 2018. These sites cover a variety of different apartment complexes with different characteristics such as transit accessibility, proximity to a major street, and number of dwelling units (ranging from 103 to 1,308). Parking occupancy counts were performed after midnight in order to ensure peak residential demand for parking. Results of the parking counts are provided in the Appendix. The results show an average parking supply of 1.03 spaces per bedroom, while the peak parking demand ranged from 0.59 to 0.96 spaces per bedroom with an average 0.80 spaces per bedroom.

The following six apartment complexes are most comparable to the project site because they are mid-rise developments, close to employment, near highways and major arterials, and are less than one half mile from Caltrain and light rail stations:

- Riverview Apartments at 250 Brandon Street (City of San Jose)
- North Park Apartments at 3500 Palmilla Drive (City of San Jose)
- Central Park Apartments at 100 N. Whisman Road (City of Mountain View)
- Madera Apartments at 600 W Evelyn Avenue (City of Mountain View)
- Metropolitan Apartments at 385 1st Avenue (City of San Mateo)

Parking surveys at these sites show a similar peak parking demand than the overall average of all 26 sites surveyed by Hexagon. The peak parking demand for these five sites ranged from 0.68 to 0.92 spaces per bedroom with an average of 0.79 spaces per bedroom (see Table 1). Based on the average parking demand observed at similar sites in the Bay Area, the proposed residential development is estimated to generate a peak parking demand of 374 parking spaces. The proposed residential parking supply (420 spaces) would exceed the peak residential parking demand estimated using Hexagon parking surveys at comparable sites by 46 spaces.

GreenTRIP Parking Database

The GreenTRIP parking database (<http://www.transformca.org/greentrip/parking-database>) includes parking data for 80 multi-family residential sites around the San Francisco Bay Area. The data were collected in 2013 and 2014. The following three sites that are similar to the project were selected from the database.

- Avalon at Cahill Park at 754 The Alameda (City of San Jose)
- Plant 51 at 88 Bush Street (City of San Jose)

- Alterra at 1640 La Rossa Circle (City of San Jose)

These sites have a moderate number of units (greater than 80), provide a parking supply that exceeds 0.5 space per room, are not senior or affordable housing, have less than 10 percent of dwelling units vacant, and are within one-half mile walking distance from rail transit stations. The parking data for the selected sites are shown in Table 2. The parking data show that these developments provide an average parking supply of 0.92 spaces per bedroom, while the peak parking demand ranged from 0.71 to 0.82 spaces per bedroom with an average of 0.76 spaces per bedroom.

The proposed residential parking supply (0.89 space per bedroom) is above the average parking demand (0.76 spaces per bedroom) observed in the GreenTRIP parking surveys.

Parking Types

The project proposes to provide 152 standard parking spaces on Level B1, 43 standard parking spaces on Level B2, and puzzle lift systems for 225 stalls on Level B2 (see Figure 1). The project proposes to use the City Lift Puzzle System, Model 2LP, without pits. Each space would be independently accessed. Thus, the project would not be restricted to assigning one stacker space to a 2-bedroom unit, which is typically followed for traditional stacker spaces.

Conclusions

According to the East Whisman Precise Plan, the project would be required to provide a total of 473 vehicle parking spaces. As proposed, the project would provide 420 vehicle parking spaces. Thus, based on the EWPP, the project would have 53 fewer vehicle parking spaces than required.

However, based on the published parking rates and survey parking data collected at comparable sites in the Bay Area, the project's proposed residential parking supply of 0.89 parking spaces per bedroom would be adequate to serve the anticipated residential parking demand.

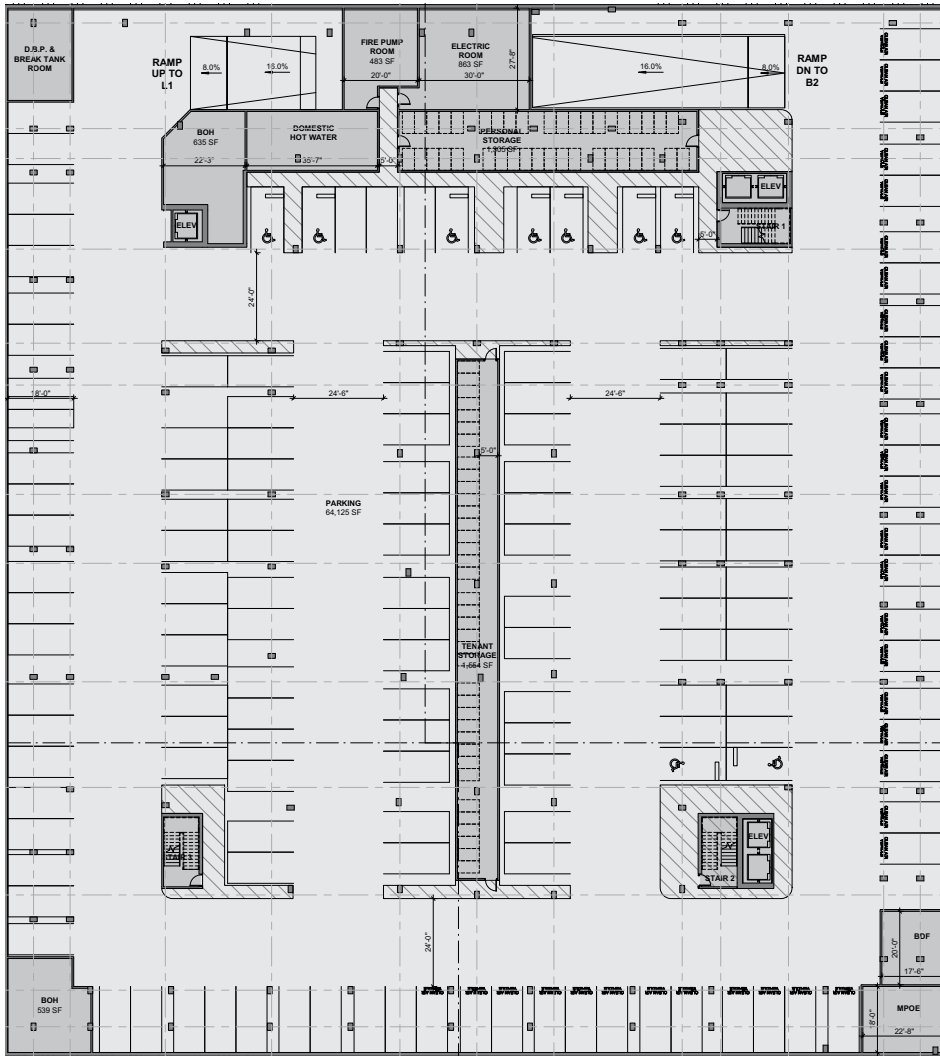
Table 1
Observed Residential Parking Usage at Comparable Sites

Location	City	Count Date(s)	Size (units)	Size (bedrooms)	Parking Spaced Provided	Parking Supply per Unit	Parking Supply per Bedroom	Number of Parking Spaces Occupied	Parking Demand per Unit	Parking Demand per Bedroom
Riverview Apartments	San Jose	2/28/2018	1308	1802	1805	1.38	1.00	1570	1.20	0.87
North Park Apartments	San Jose	3/1/2018	2762	4305	3536	1.28	0.82	3265	1.18	0.76
Central Park Apartments	Mountain View	2/14/2012	354	722	696	1.97	0.96	490	1.38	0.68
Madera Apartments	Mountain View	6/25-26/2013	203	290	313	1.54	1.08	206	1.01	0.71
Metropolitan Apartments	San Mateo	7/27/2011	218	333	N/A	N/A	N/A	305	1.40	0.92
Summary										
Average						1.54	0.97		1.24	0.79
Minimum						1.28	0.82		1.01	0.68
Maximum						1.97	1.08		1.40	0.92

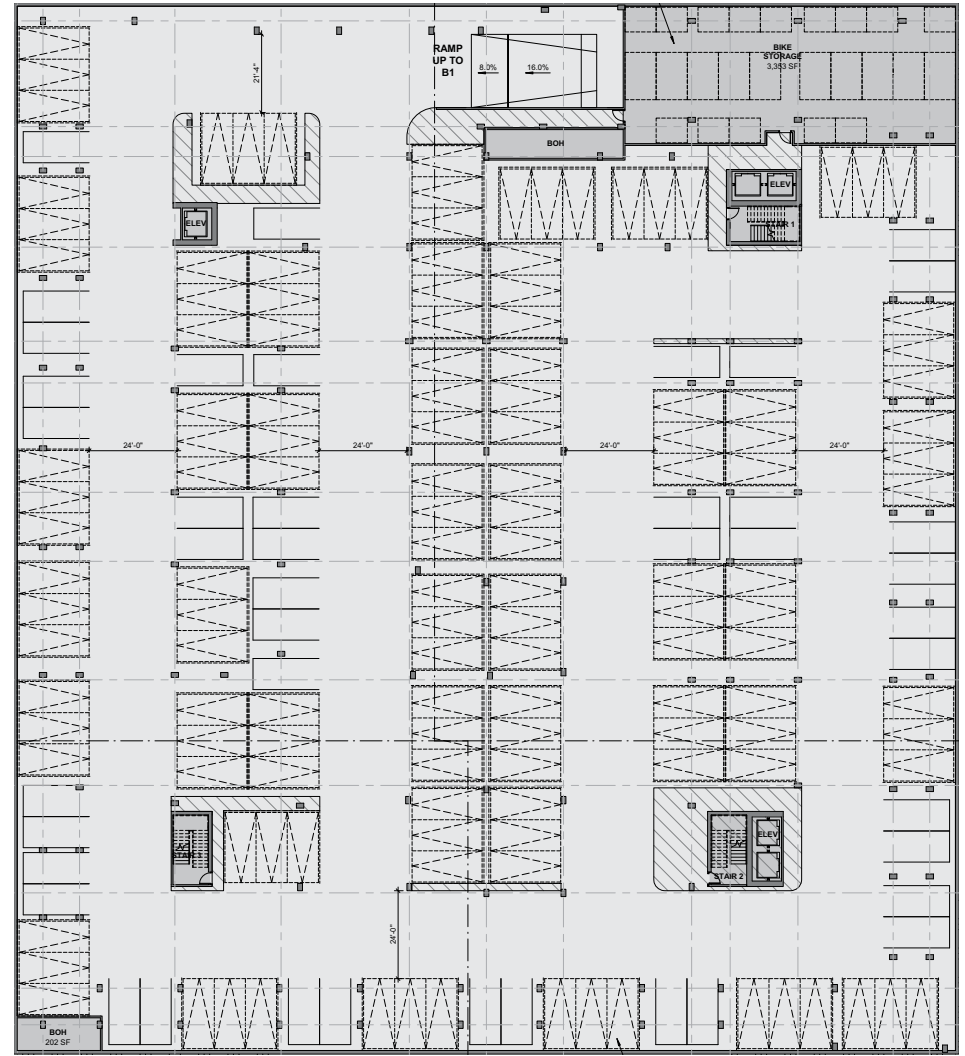
Source: Hexagon Transportation Consultants, Inc.

Table 2
GreenTRIP Parking Database Residential Parking Usage

Location ¹		Size (units)	Size (bedrooms)	Parking Spaces Provided	Parking Supply per Unit	Parking Supply per Bedroom	Residential Occupancy Rate (%)	Parking Spaces Occupied	Parking Demand per Unit	Parking Demand per Bedroom	
Residential Complex	Address	City									
Avalon at Cahill Park	754 The Alameda	San Jose	218	324	283	1.30	0.87	98	231	1.06	0.71
Plant 51	88 Bush Street	San Jose	265	444	470	1.77	1.06	100	365	1.38	0.82
Alterra	1640 La Rossa Circle	San Jose	143	286	239	1.67	0.84	95	209	1.46	0.73
Summary											
Average						1.58	0.92		1.30	0.76	
Minimum						1.30	0.84		1.06	0.71	
Maximum						1.77	1.06		1.46	0.82	
Notes											
¹ Survey data from GreenTRIP database (http://www.transformca.org/greentrip/parking-database).											



Level B1



Level B2

Figure 1
Site Plan

Appendix A
Local Parking Surveys

Hexagon Apartment Parking Count Data

	All Sites Average	San Jose		Mountain View						Sunnyvale		
		River- view	North Park	The Shadows Apartments	Central Park Apartments	Park Place Apartments	North Park Apartments	Avalon Mountain View	Avalon Towers on the Peninsula	Madera Apartments	Spruce Apartments	Weekday
Count Date		2/28/2018	3/1/2018	2/14/2012	2/14/2012	2/16/2012	2/16-17/2012	2/23/2012	3/6/2012	6/25-26/2013	10/3/2018	9/29/2018
1 bedroom units		814	1340	92	68	181	98	117	90	116	550	550
2 bedroom units		494	1301	64	204	186	90	75	115	87	216	216
3 bedroom units		0	121	24	82	6	0	56	6		0	0
4 bedroom units		0	0								0	0
Total Apartment Units	13,615	1308	2762	180	354	373	188	248	211	203	766	766
Total Bedrooms	20,766	1,802	4,305	292	722	571	278	435	338	290	982	982
Bedrooms to units ratio	1.53	1.38	1.56	1.62	2.04	1.53	1.48	1.75	1.60	1.43	1.28	1.28
Occupied Parking Spaces	16,681	1,570	3,265	219	490	339	215	301	247	206	882	868
Total Parking Spaces	17433	1805	3536	341	696	511	324	426	529	313	1157	1157
Percent Occupied		87%	92%	64%	70%	66%	66%	71%	47%	66%	76%	75%
Occupied spaces to units ratio	1.23	1.20	1.18	1.22	1.38	0.91	1.14	1.21	1.17	1.01	1.15	1.13
Parking Supply per Unit	1.60	1.38	1.28	1.89	1.97	1.37	1.72	1.72	2.51	1.54	1.51	1.51
Parking Supply per Bedroom	1.03	1.00	0.82	1.17	0.96	0.89	1.17	0.98	1.57	1.08	1.18	1.18
Occupied spaces to bedrooms ratio	0.80	0.87	0.76	0.75	0.68	0.59	0.77	0.69	0.73	0.71	0.90	0.88

Hexagon Apartment Parking Count Data

	Cupertino						San Mateo		Township, Redwood, Colonnade, Los Altos		
	Markham Apartments	Siena Apartments	Arioso Apartments	Archstone Cupertino	Biltmore Apartments	Verandas	The Metropolitan	Altaire Apartments	The Plaza, Foster City	Township, Redwood City	Colonnade, Los Altos
Count Date	10/22/2011	10/22/2011	10/27/2011	2/16/2012	2/16/2012	12/3/2018-12/9/2018	7/27/2011 & 7/27/2011		3/7/2017-3/9/2017		
1 bedroom units	259	36	81	145	78		115	5	150	71	100
2 bedroom units	245	92	120	152	93		91	2	138	58	67
3 bedroom units	0	0	0	14	8		12	63	19	3	0
4 bedroom units	0	0	0	0	0		0	33			
Total Apartment Units	504	128	201	311	179	120	218	103	307	132	167
Total Bedrooms	749	220	321	491	288	240	333	330	483	196	234
Bedrooms to units ratio	1.49	1.72	1.60	1.58	1.61	2.00	1.53	3.20	1.57	1.48	1.40
Occupied Parking Spaces	575	182	275	385	276	188	305	194	442	140	191
Total Parking Spaces				529	353	229			693	169	321
Percent Occupied				73%	78%	82%			64%	83%	60%
Occupied spaces to units ratio	1.14	1.42	1.37	1.24	1.54	1.57	1.40	1.88	1.44	1.06	1.14
Parking Supply per Unit				1.70	1.97	1.91			2.26	1.28	1.92
Parking Supply per Bedroom				1.08	1.23	0.95			1.43	0.86	1.37
Occupied spaces to bedrooms ratio	0.77	0.83	0.86	0.78	0.96	0.78	0.92	0.59	0.92	0.71	0.82

Hexagon Apartment Parking Count Data

	Santa Clara									
	Hearth North		Hearth South		Cobalt		Park Central		Mansion Grove	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Count Date	9/12/17-9/14/2017	9/16/17-9/17/17	9/12/17-9/14/2017	9/16/17-9/17/17	9/12/17-9/14/2017	9/16/17-9/17/17	9/12/17-9/14/2017	9/16/17-9/17/17	9/12/17-9/14/2017	9/16/17-9/17/17
1 bedroom units	129	129	114	114	118	118	85	85	502	502
2 bedroom units	160	160	145	145	104	104	88	88	494	494
3 bedroom units	0	0	0	0	0	0	0	0	4	4
4 bedroom units	0	0	0	0	0	0	0	0	0	0
Total Apartment Units	289	289	259	259	222	222	173	173	1000	1000
Total Bedrooms	449	449	404	404	326	326	261	261	1502	1502
Bedrooms to units ratio	1.55	1.55	1.56	1.56	1.47	1.47	1.51	1.51	1.50	1.50
Occupied Parking Spaces	353	364	317	314	274	271	212	219	1,317	1285
Total Parking Spaces	474	474	462	462	378	378	345	345	1670	1670
Percent Occupied	74%	77%	69%	68%	72%	72%	61%	63%	79%	77%
Occupied spaces to units ratio	1.22	1.26	1.22	1.21	1.23	1.22	1.23	1.27	1.32	1.29
Parking Supply per Unit	1.64	1.64	1.78	1.78	1.70	1.70	1.99	1.99	1.67	1.67
Parking Supply per Bedroom	1.06	1.06	1.14	1.14	1.16	1.16	1.32	1.32	1.11	1.11
Occupied spaces to bedrooms ratio	0.79	0.81	0.78	0.78	0.84	0.83	0.81	0.84	0.88	0.86